AV AMPLIFIER

DSP-AX2

SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

TO SERVICE PERSONNEL 1
FRONT PANEL 1
REAR PANELS 2
SPECIFICATIONS ..... 4 – 5
INTERNAL VIEW 6
DISASSEMBLY PROCEDURES 6
SELF DIAGNOSIS FUNCTION ..... 7 – 25
AMP CHECK 26
IC DATA ..... 27 – 40
DISPLAY DATA ..... 41 – 42
PIN CONNECTION DIAGRAM 43
BLOCK DIAGRAM ..... 44 – 47
PRINTED CIRCUIT BOARD ..... 48 – 71
SCHEMATIC DIAGRAM ..... 72 – 78
PARTS LIST ..... 79 – 102
REMOTE CONTROL TRANSMITTER ..... 103 – 108

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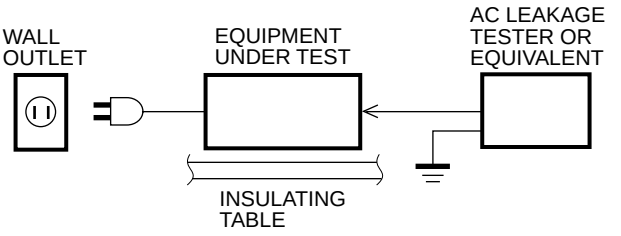
100729

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

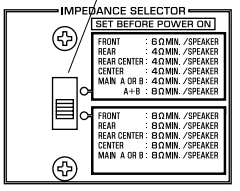
■ TO SERVICE PERSONNEL

Critical Components Information
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

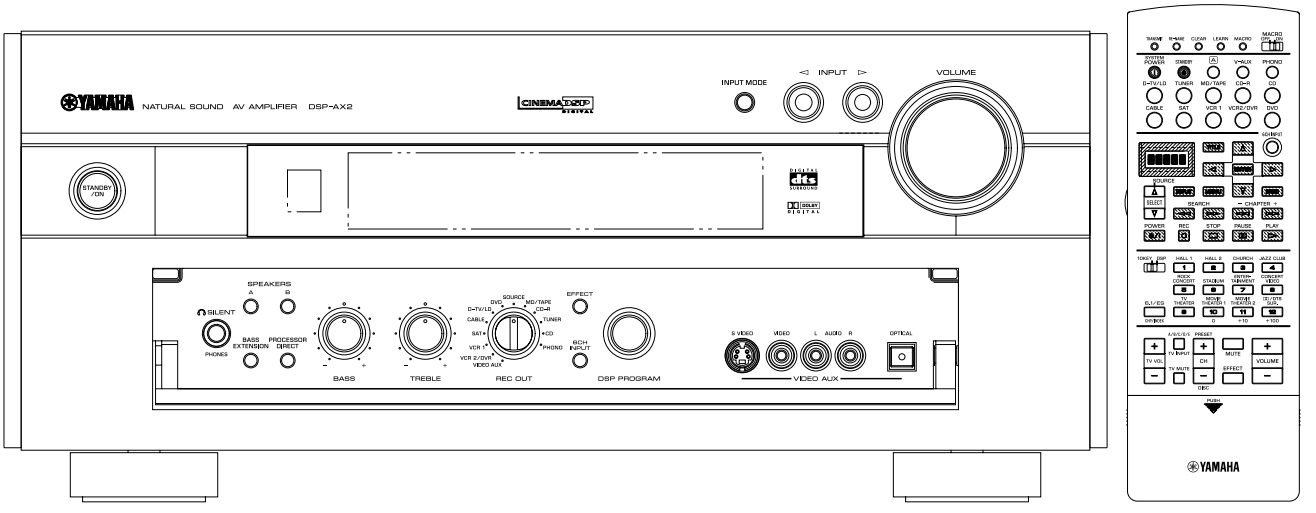


WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IMPEDANCE SELECTOR

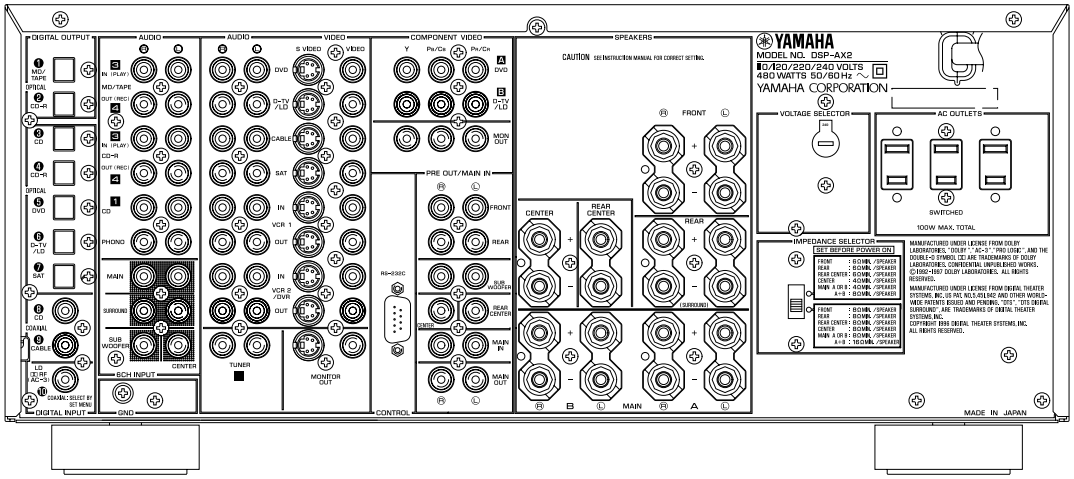

IMPEDANCE SELECTOR
SET BEFORE POWER ON
FRONT : 6Ω MIN. /SPEAKER
REAR : 4Ω MIN. /SPEAKER
REAR CENTER : 4Ω MIN. /SPEAKER
CENTER : 4Ω MIN. /SPEAKER
MAIN A OR B : 4Ω MIN. /SPEAKER
A+B : 8Ω MIN. /SPEAKER
FRONT : 8Ω MIN. /SPEAKER
REAR : 8Ω MIN. /SPEAKER
REAR CENTER : 8Ω MIN. /SPEAKER
CENTER : 8Ω MIN. /SPEAKER
MAIN A OR B : 8Ω MIN. /SPEAKER

■ FRONT PANEL

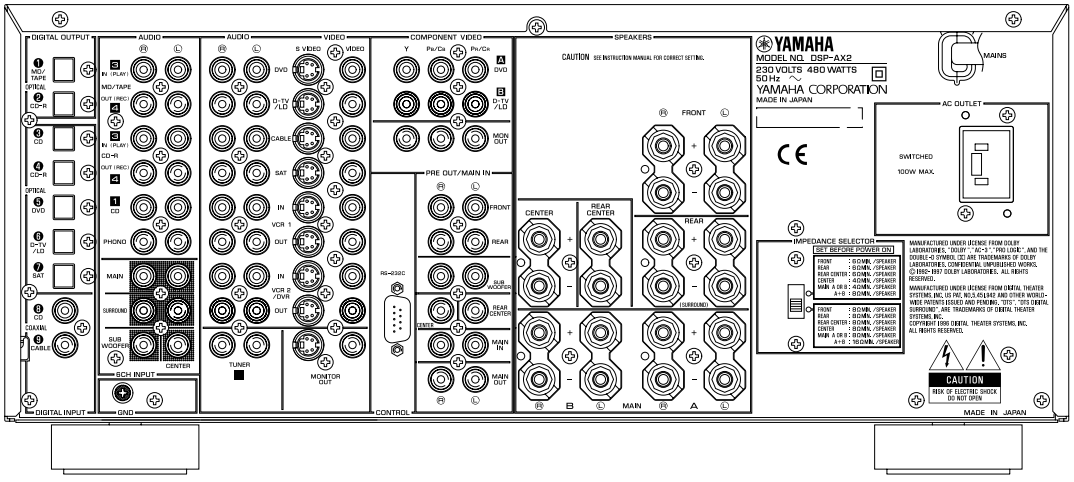


■ REAR PANELS

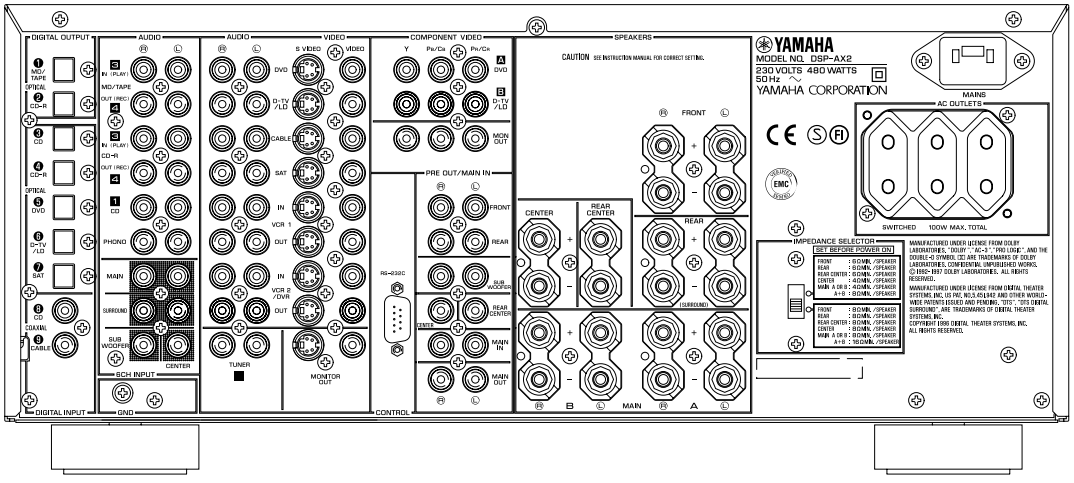
▼ R, T models



▼ B model



▼ G model



■ SPECIFICATIONS

■ AUDIO SECTION

Minimum RMS Output Power per Channel
MAIN, 20Hz to 20kHz, 0.02% THD, 8Ω ... 100W+100W
CENTER, 20Hz to 20kHz, 0.02% THD, 8Ω 100W
REAR, 20Hz to 20kHz, 0.02% THD, 8Ω ... 100W+100W
REAR CENTER,
20Hz to 20kHz, 0.02% THD, 8Ω 100W
FRONT, 1kHz, 0.05% THD, 8Ω ..... 25W+25W
Maximum Power per Channel (R, T models only)
MAIN, 1kHz, EIAJ, 10% THD, 8Ω ..... 140W+140W
CENTER, 1kHz, EIAJ, 10% THD, 8Ω 140W
REAR, 1kHz, EIAJ, 10% THD, 8Ω ..... 140W+140W
REAR CENTER, 1kHz, EIAJ, 10% THD, 8Ω 140W
FRONT, 1kHz, EIAJ, 10% THD, 8Ω ..... 35W+35W
Dynamic Power per Channel (R, T models only)
MAIN, 8/6/4/2Ω 140/170/220/320W
Dynamic Headroom (R, T models only)
8Ω 1.46dB
DIN Standard Output Power per Channel (B, G models only)
MAIN, 1kHz, 0.7% THD, 4Ω ..... 160W+160W
CENTER, 1kHz, 0.7% THD, 4Ω 160W
REAR, 1kHz, 0.7% THD, 4Ω ..... 160W+160W
REAR CENTER, 1kHz, 0.7% THD, 4Ω 160W
FRONT, 1kHz, 0.7% THD, 4Ω ..... 40W+40W
IEC Power (B, G models only)
MAIN, 1kHz, 0.015% THD, 8Ω 115W
Power Band Width
MAIN, 0.08% THD, 50W/8Ω ..... 10Hz to 50kHz
Damping Factor
MAIN, 20Hz to 20kHz, 8Ω ..... 200 or more
Input Sensitivity/Impedance
CD, etc (1kHz, 100W/8Ω) 150mV/47kΩ
PHONO MM 2.5mV/47kΩ
MAIN IN 1V/47kΩ
Maximum Input Signal Level
PHONO MM, 1kHz, 0.05% THD, (Effect on) 110mV
CD, etc, (Effect on) 2.3V
Output Level/Impedance
REC OUT 150mV/1kΩ
PRE OUT (MAIN, etc) 1V/1.2kΩ
SUB WOOFER (EFFECT OFF, MAIN SP : SMALL)
MONO 4.0V/1.2kΩ
Maximum Voltage Output (20Hz to 20kHz, 1% THD)
PRE OUT (MAIN L/R) 1.5V
Headphone Jack Rated Output/Impedance
CD, etc (1kHz, 40mV, 8Ω) 150mV/100Ω
Frequency Response
CD, etc (10Hz to 100kHz, MAIN L/R) ..... +0/-3.0dB
MAIN IN (5Hz to 100kHz, MAIN L/R) ..... +0/-3.0dB
RIAA Equalization Deviation (20Hz to 20kHz)
PHONO MM ..... 0±0.5dB
Tone Control Characteristics
BASS : Boost/cut ..... ±10dB (50Hz)
Turnover Frequency 350Hz
TREBLE : Boost/cut ..... ±10dB (20kHz)
Turnover Frequency 3.5kHz
Center Graphic Equalizer
Frequency 100/300/1k/3k/10kHz
Boost/cut ..... ±6dB
Q 0.7
Bass Extension ..... +6dB (60Hz)
Filter Characteristics
MAIN, CENTER, REAR SP SMALL
: H.P.F. ..... fc = 90Hz, 12dB/oct.
SUB WOOFER OUT : L.P.F. ..... fc = 90Hz, 18dB/oct.

Total Harmonic Distortion (20Hz to 20kHz)
PHONO MM to REC OUT (3V) 0.01%
CD, etc, to PRE OUT MAIN L/R (1V) 0.005%
CD, etc, to SP OUT L/R (50W/8Ω) 0.015%
MAIN IN to SP OUT (50W/8Ω) 0.008%
Signal-to-Noise Ratio (IHF-A-Network)
PHONO MM, Input Shorted 5mV (Effect off) 86dB
CD, etc, Input Shorted 150mV (Effect off) 96dB
CD, etc, Input Shorted 250mV (Effect off) 100dB
Residual Noise (IHF-A-Network)
MAIN, SP OUT 150µV
Channel Separation (Vol. –30dB, Effect off)
PHONO MM, Input Shorted, 1kHz/10kHz 60dB/55dB
CD, etc, Input 5.1kΩ Shorted, 1kHz/10kHz .. 60dB/45dB
Muting ..... – ∞

■ VIDEO SECTION

Video Signal Type
B, G models ..... PAL
R, T models ..... NTSC/PAL
Composite Video Signal Level 1Vp-p/75Ω
S-Video Signal Level
Y 1Vp-p/75Ω
C 0.286Vp-p/75Ω
Component Signal Level
Y 1Vp-p/75Ω
Cb/Cr 0.7Vp-p/75Ω
Video Maximum Input Level 1.5Vp-p
Video Signal-to-Noise Ratio 50dB
Monitor Output Frequency Response
Composite Video Signal ..... 5Hz~10MHz, –3dB
S-Video Signal ..... 5Hz~10MHz, –3dB
Component Signal ..... DC~30MHz, –3dB

■ GENERAL

Power Supply
B, G models . . . . . AC 230V, 50Hz
R, T models . . . . . AC 110/120/220/240V, 50/60Hz
Power Consumption 480W
Maximum Power Consumption (R, T models only) . . 770W
Standby Power Consumption
B, G models 1.2W
R, T models (AC220V, 50Hz) 1.5W
AC Outlets
R, T, G models, Switched x 3 . . . . . 100W max (Total)
B models, Switched x 1 . . . . . 100W max
Dimensions (W x H x D) . . . . . 449 x 191 x 468mm
(17-11/16" x 7-1/2" x 18-7/16")
Weight . . . . . 22.0 kg (48 lbs 8oz)
Finish
R, B, G, T models . . . . . Black color
R, B, G, T models . . . . . Gold color
G model . . . . . Titanium color
Accessories . . . . . Remote Control Transmitter x 1
Battery (size "AA", "R06") x 3
Power Cord x 1(G only)
Sheet/side(L, R) x 1

** Specifications subject to change without notice.*

B . . . . . British model
G . . . . . European model
R . . . . . General model
T . . . . . China model

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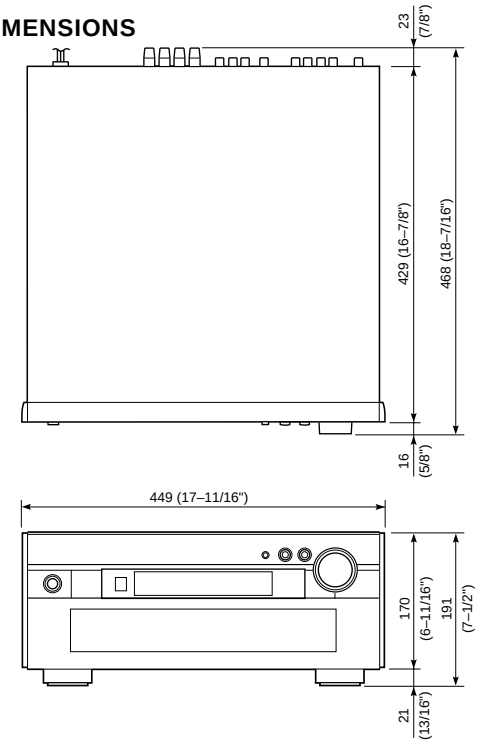
● DIMENSIONS



Units : mm (inch)

● SET MENU TABLE

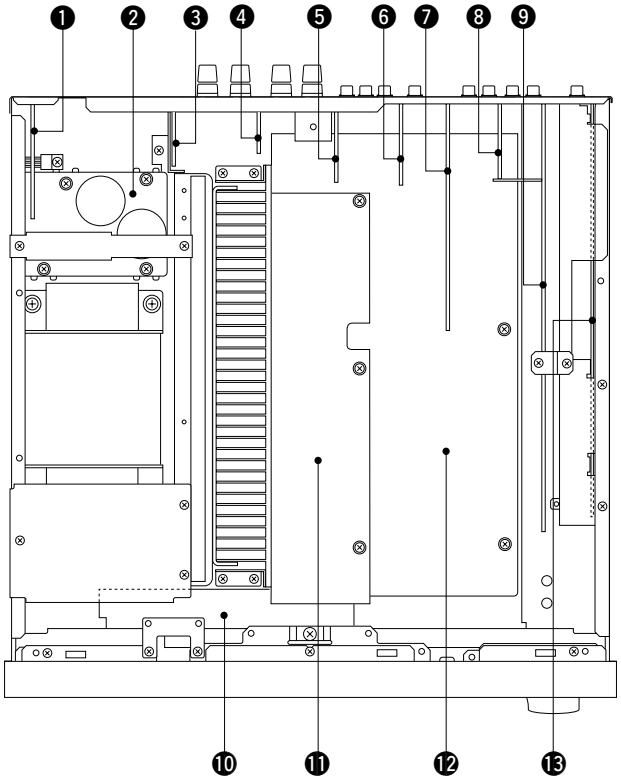
No.	SET MENU	PRESET VALUE	SETTING RANGES
1.	SPEAKER SET		
1A	CENTER SPEAKER	LARGE	LARGE/SMALL/NONE
1B	MAIN SPEAKER	LARGE	LARGE/SMALL
1C	REAR L/R SPEAKER	LARGE	LARGE/SMALL/NONE
1D	REAR CT SPEAKER	LARGE	LARGE/SMALL/NONE
1E	LFE/BASS OUT	BOTH	SUBWOOFER/MAIN/BOTH
1F	FRONT EFFECT SPEAKER	YES	YES/NONE
1G	MAIN LEVEL	NORMAL	NORMAL/–10dB
2.	LOW FREQ. TEST	TONE : OFF	ON/OFF
		OUTPUT : MAIN L/R	L/C/R/RS/RC/LS/SW/FRONT
		FREQUENCY : 88Hz	35 — 250Hz
3.	L/R BALANCE	0	L — 0 — R (0.5 step) (L/R 10.0)
4.	HP TONE CTRL	BASS : 0dB	–6dB — +3dB
		TREBLE : 0dB	–6dB — +3dB
5.	CENTER GRAPHIC EQ.	EACH ch : 0dB	100Hz — 10kHz, –6dB — +6dB
6.	INPUT RENAME	DVD(Currently selected input)	
7.	I/O ASSIGNING		
7A	COMPONENT VIDEO INPUT	[A] : DVD	DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX
		[B] : D-TV/LD	DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX
7B	OPTICAL OUT	(1) : MD/TAPE	DVD, MD/TAPE, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX, PHONO, CD, TUNER, CD-R
		(2) : CD-R	DVD, MD/TAPE, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX, PHONO, CD, TUNER, CD-R
7C	OPTICAL IN	(3) : CD	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, PHONO
		(4) : CD-R	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, PHONO
		(5) : DVD	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, PHONO
		(6) : D-TV/LD	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, PHONO
		(7) : SAT	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, PHONO
7D	COAXIAL IN	(8) : CD	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX, PHONO
		(9) : CABLE	CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX, PHONO
		(10) : LD RF (R, T only)	LD RF, CD, TUNER, CD-R, MD/TAPE, DVD, D-TV/LD, CABLE, SAT, VCR1, VCR2/DVR, V-AUX, PHONO
8.	INPUT MODE	DVD : AUTO	AUTO/LAST
9.	PARAMETER INITIALIZE	OFF	PROGRAM 1 — 12
10.	DOLBY DIGITAL SET		
10A	LFE LEVEL	SPEAKER : 0dB	–20dB — 0dB
		HEAD PHONE : 0dB	–20dB — 0dB
10B	DYNAMIC RANGE	SPEAKER : MAX	MAX/STD/MIN
		HEAD PHONE : MAX	MAX/STD/MIN
11.	DTS SET		
11A	LFE LEVEL	SPEAKER : 0dB	–10dB — +10dB
		HEAD PHONE : 0dB	–10dB — +10dB
12.	6.1/ES AUTO	ON	ON/OFF
13.	SPEAKER DELAY TIME	CENTER : 0ms	0ms — 5ms (1ms step)
		REAR CENTER : 3ms	0ms — 30ms
14.	DISPLAY SET	BLUE BACK : AUTO	AUTO/OFF
		OSD SHIFT : 0	–5 — +5
		DIMMER : 0	–4 — 0
15.	MEMORY GUARD	OFF	ON/OFF

● SUPERIMPOSING

Input LD, etc.		Output	Superimposing
Terminal	Signal	Monitor connection	
S	O	O	O (On screen)
V	O	—	X
S	O	X	X
V	O	—	O (On screen)
S	O	O	O (On screen)
V	X	—	X
S	O	X	X
V	X	—	O (Blue back)
S	X	—	X
V	O	—	X (On screen)
S	X	—	O (Blue back)
V	X	—	O (Blue back)

S : S video signal
V : Composite video signal
O : YES
X : NO
— : NO CARE
Caution: Superimposing function is not usable for component signals.

■ INTERNAL VIEW



❶ F AMP (2) P.C.B.
❷ MAIN (2) P.C.B.
❸ MAIN (4) P.C.B.
❹ MAIN (5) P.C.B.
❺ VIDEO (3) P.C.B.
❻ VIDEO (2) P.C.B.
❼ VIDEO (1) P.C.B.
❽ VIDEO (4) P.C.B.
❾ FUNCTION P.C.B.
❿ OPERATION (2) P.C.B.
⓫ F AMP (1) P.C.B.
⓬ MAIN (1) P.C.B.
⓭ DSP P.C.B.

■ DISASSEMBLY PROCEDURES (Remove parts in the order as numbered.)

1. Removal of Top Cover
Remove 8 screws (①, ② and ③) and then remove the Top Cover in Fig. 1.

2. Removal of Bottom Cover
a. Remove 13 screws (④) and then remove the Bottom Cover in Fig. 1.

3. Removal of Front Panel
a. Remove a knob in Fig. 1.
b. Remove 4 screws (⑤) and then remove the Front Panel in Fig. 1.

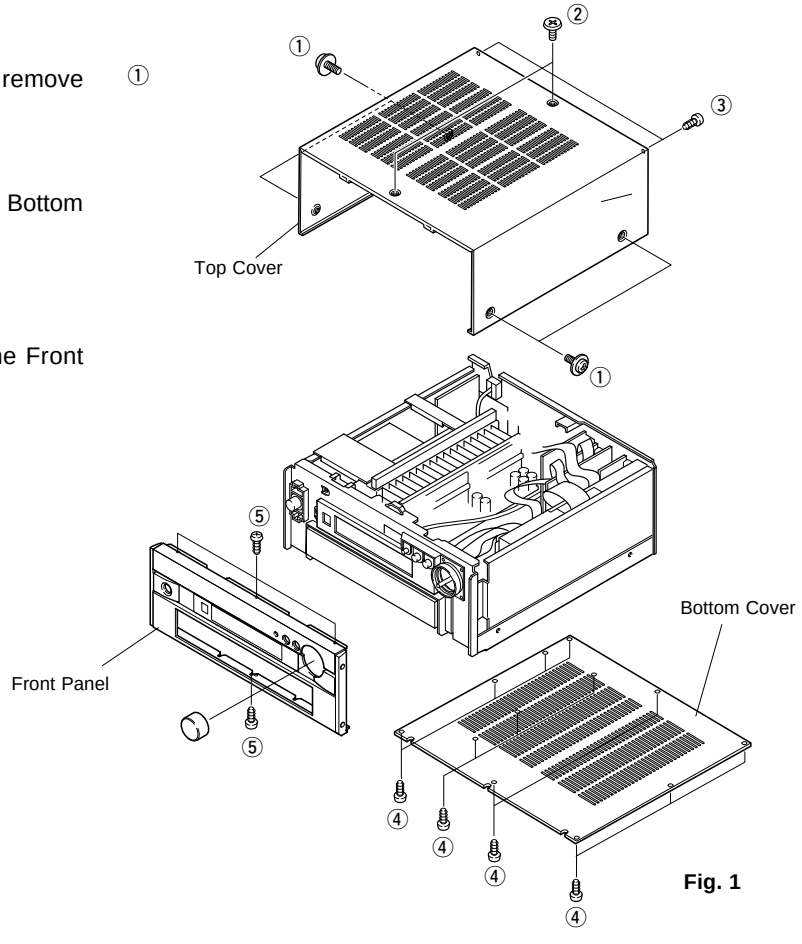


Fig. 1

■ SELF DIAGNOSIS FUNCTION

This product has a built-in self diagnosis function (DIAG) to facilitate inspection, measurement and determination of a faulty item, if any. There are 13 DIAG menu items each of which has sub-menu items.
Listed in the table below are menu items and sub-menu items.
(Start-up and menu operation of DIAG is executed by using the main unit and its remote control unit.)

No.	DIAG menu	Sub-menu	Remote control code (key)
1	DSP THROUGH	1. ANALOG BYPASS	7A---90 (PRG 9)
		2. DSP 0dB	7A---91 (PRG 10)
		3. FULL BIT	7A---92 (PRG 11)
2	HP ROUTE	1. 0dB	7A---93 (PRG 12)
		2. FULL BIT	7A---10 (TUNER PRESET +)
3	RAM THROUGH	1. 0dB	7A---11 (TUNER PRESET -)
4	PRO LOGIC	1. YSS928	7A---0C (CD FF)
5	SPEAKERS SET	1. MAIN:SMALL 0dB	7A---88 (PRG 1)
		2. MAIN:LARGE -10	7A---89 (PRG 2)
		3. CENTER:NONE	7A---8A (PRG 3)
		4. LFE/BASS:MAIN	7A---8B (PRG 4)
		5. FRONT MIX:5ch	7A---8C (PRG 5)
		6. REAR CENTER:MUT	7A---8D (PRG 6)
		7. REAR L/R:MUTE	7A---8E (PRG 7)
6	DISPLAY CHECK	1. EFFECT OFF (initial screen)	7A---8F (PRG 8)
		2. DISPLAY OFF	---
		3. DISPLAY ALL	---
		4. DISPLAY DIMMER (50%)	---
		5. CHECKED PATTERN	---
7	MANUAL TEST	1. ALL	7A---00 (TAPE PLAY)
		2. MAIN L	7A---01 (TAPE RW)
		3. CENTER	7A---02 (TAPE FW)
		4. MAIN R	7A---03 (TAPE STOP)
		5. REAR R	7A---04 (TAPE PAUSE)
		6. REAR C	7A---05 (TAPE MUTE)
		7. REAR L	7A---06 (TAPE A/B)
		8. FRONT L	7A---07 (TAPE DIR A)
		9. FRONT R	7A---08 (CD PLAY)
		10. LFE	7A---09 (CD STOP)
8	RS-232C	1. TX DATA	---
		2. HARD FLOW	---
9	PRESET	1. INHIBIT (memory initialization inhibited)	---
		2. RESERVED (memory initialized)	7A---57 (SLEEP)
10	FAN/AD	1. FAN HISTORY	---
		2. KY0, KY1(PANEL KEY), RECOUT	---
		3. THM, PRD, PRV	7A---0B (CD SKIP –)
11	IF STATUS	1. IFST	---
		2. CHS1	---
		3. CHS2	---
		4. CHS3	---
		5. CHS4	---
		6. CHS5	---
		7. BSI1	---
		8. BSI2	---
		9. BSI3	---
		10. BSI4	---
		11. BDS1	---
		12. BDS2	---
		13. BDS3	---
		14. BDS4	---
		15. YSS1	---

For the setting procedure of the tape, please refer to “Setting the Manufacturer Code in the Remote Control” (p.45) of the Instruction Manual.

No.	DIAG menu	Sub-menu	Remote control code (key)
11	IF STATUS	16. YSS2	---------
		17. YSS3	---------
12	DSP RAM CHECK	DSP RAM check	7A---0A (CD SKIP +)
13	SUM/VER/PORT	1. Version	7A---0D (CD REW)
		2. Checksum (ALL/PROG)	---------
		3. Checksum (232C/MAKER)	---------
		4. PORT (check of port settings for judging micrprocessor function)	---------

● Starting DIAG

Press the “POWER” (STANDBY/ON) key of the main unit while pressing the “EFFECT” key and the “6CH INPUT” key located in the sealing panel of the main unit simultaneously, and DIAG will be activated.

● Starting DIAG in the protection cancel mode

If the protection function works and causes hindrance to trouble diagnosis, cancel the protection function as described below, and it will be possible to enter the DIAG mode. (The protection function other than the excess current detect function will be cancelled.)

Press the “POWER” (STANDBY/ON) key while pressing the “EFFECT” key and the “6CH INPUT” key simultaneously. At this time, keep pressing the “EFFECT” key and the “6CH INPUT” for 3 seconds or longer.

In this mode, “ ZONE 2 ” in the FL display of the main unit flashes.

CAUTION!
Using this product with the protection function cancelled may cause damage to itself. Use special care for this point when using this mode.

● Canceling DIAG

Turn off the power by pressing the “POWER” (STANDBY/ON) key of the main unit or the “POWER” key of the remote control unit.

CAUTION: When canceling this function, check that DIAG menu No.9 PRESET (memory initialization inhibited/reserved) has been set. (To keep the user memory, be sure to select “INHIBIT” (initialization inhibited) from the No.9 PRESET menu before canceling the DIAG function.)

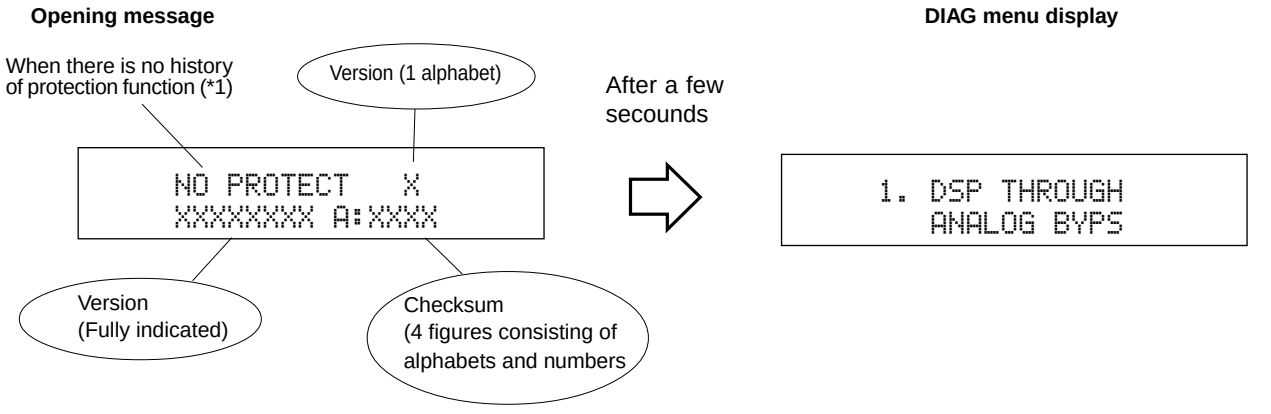
● Display at the start of DIAG

The diagnostic menu appears on the monitor screen. (It remains on display until it is canceled.)

```
    DIAGNOSTIC MENU

1.DSP THR        8.RS232C
2.HP ROUTE       9.PRESET
3.RAM THR        10.AD DATA
4.PRO LOGIC      11.STATUS
5.SP SET         12.DSP RAM
6.DISP CHECK     13.VER SUM
7.MANL TEST
```

On the FL display of the main unit, an opening message (including the version, checksum and the history of protection function) appears for a few seconds followed by the diagnostic menu display of 1 DSP THROUGH: ANALOG BYPS.



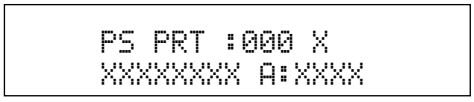
Checksum (4 figures consisting of alphabets and numbers)
The checksum is obtained by adding 4M bits per 16bits of the entire program code and expressing the result as a 4-figure hexadecimal data. (0xffff is added for the area where no code has been entered and for the area other than ROM code.)

(*1) If the history of the protection function has been recorded, the type of the protection function and the voltage value recorded last are displayed.

In the case where the protection function works after DIAG has been started and the power is turned off ;
When the protection function (*2) works, the history of the protection function appears on display and the power turns off. Repair the faulty parts according to the displayed history.

(*2) When an excess current or any other faulty condition is found with the power source, DC, etc., the protection function forces the power to turn off.

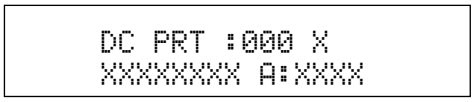
I PROTECTION display
(When the power is turned on without an abnormality corrected, the protection function works the moment the power relay is turned on to shut off the power supply.)
Cause: There is an abnormal current flow to the power amplifier.
Supplementary information: As the current of the power transistor of each channel is detected, the abnormal channel can be identified by checking the current detect transistor.
Reference: If I PROTECTION function has worked after SP relay ON, a warning message “CHECK SP WIRES” appears the next time the power is turned on. This indicates that some trouble exists after the SP terminal, such as a short-circuit of the speaker cable.



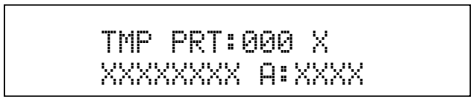
PS PRT display
(When the power is turned on without an abnormality corrected, the protection function works about 1 second later to shut off the power supply. Display may not be provided, if there is an abnormality with the power supply for the display.)
Cause: There is an abnormality in the power supply section (voltage).
Supplementary information: As the power from following sources is detected, it is possible to determine where an abnormality exists.

Transformer secondary winding
VI X 2(CB358), OR x 2(CB359)

Stabilizing power source
±12, ±5V, +5D1, +5D2, VP



DC PRT display
(When the power is turned on without an abnormality corrected, the protection function works about 3 seconds later to shut off the power supply.)
Cause: A DC output from the power amplifier of each channel is detected.



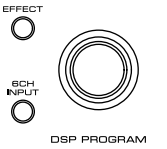
TMP PRT display
(When the power is turned on without an abnormality corrected, the protection function works about 1 second later to shut off the power supply.)
Cause: The temperature of the heat sinks in the power amplifier is detected. When the temperature rises and an abnormality is detected, the power turns off.

Besides the above possible causes, the cause may exist in the disconnected connector or around CPU.
PS PRT, DC PRT and TMP PRT displays include the abnormal A/D value in % (voltage value obtained by considering 5V as 100%). Concerning this value, refer to DIAG menu No.10 FAN/AD described on page 22.

● History of protection function
When the protection function has worked, its history is stored in memory with a backup. Even when no abnormality is noted while the unit is being serviced, an abnormality which has occurred previously can be defined as long as the backup data has been stored.
The protection history is cleared when DIAG is canceled by selecting “RESERVED” (memory initialization) from the setting items of the DIAG menu No.9 PRESET or when the backup data is erased.

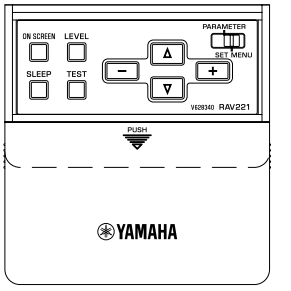
● Operation procedure of DIAG menu and SUB-MENU

There are No.1 to No.13 MENU items and some SUB-MENU items as well.



DIAG menu selection
Main unit: DSP PROGRAM selector (forward/reverse)
Remote control unit: Cursor △(forward)/▽(reverse) key

SUB-MENU selection
Main unit: EFFECT key (forward)
Remote control unit: Cursor +(forward)/–(reverse) key
Only the remote control keys indicated in the Menu List can be used to select a sub menu directly.



● Functions during DIAG being set

In addition to the DIAG menu, functions as listed below are available.

- Input selection, 6CH input
- REC OUT switching
- Front/Center/Rear/Sub-woofer level adjustment
- Muting
- Speaker A/B
- Power on/off operation
- Master volume

It is possible to set to the following volume values using the remote control unit only during DIAG being set.

Volume value (dB)	Remote control code (key)
0	7A---E0 (TUNER CHP/INDEX)
-21	7A---E1 (TUNER 9)
-40	7A---E2 (TUNER 10)
MUTE	7A---E3 (TUNER 11)

* Functions related to the tuner and the set menu are not available.
* It is possible to confirm Menu No.11 “IF STATUS” while keeping the signal process (operation status) of each DIAG menu by using the INPUT MODE key of the main unit.

● Initial settings used to start DIAG function

Following initial settings are used when starting the DIAG function.
When the DIAG function is canceled, the settings before starting DIAG will be restored.

- Input: DVD (6CH INPUT OFF)
- Master volume: -40dB
- Front/Center/Rear/Sub-woofer level: 0dB
- Audio mute: OFF
- Speaker A/B: ON
- Speakers Settings
  - MAIN: LARGE
  - CENTER: LARGE
  - REAR: LARGE
  - REAR CENTER: LARGE
  - BASS OUT: BOTH
  - FRONT EFFECT: YES
  - MAIN LEVEL: Normal (0dB)
- DIAG menu: DSP THROUGH (ANALOG BYPASS)

Details of DIAG menu

1. DSP THROUGH

There are 3 sub menu items (ANALOG BYPS, DSP 0dB, FULL BIT).

```
1. DSP THROUGH
   ANALOG BYPS
```

ANALOG BYPS [Remote control code: 7A—90(PRG 9)]

- The input mode is fixed to use the analog (A/D) system.
- The L/R signal is output through the analog bypass without using the DSP section.
- C/RC, FL/FR, RL/RR and SWFR signals are output through DSP (see the signal path in the figure below) without using the external DRAM. (Head margin included)

Head margin

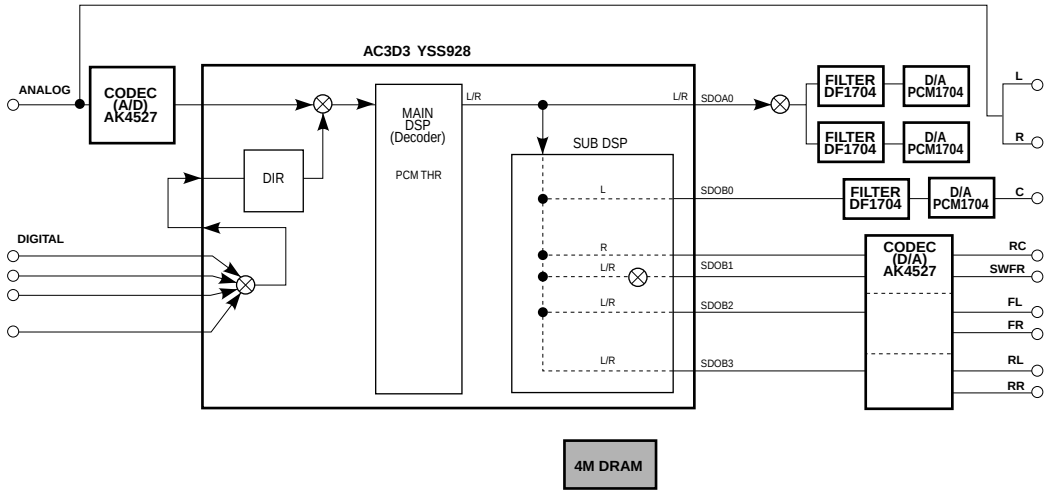
CENTER:	-6dBFS
REAR CENTER:	-3dBFS
FL/FR:	-6dBFS
RL/RR:	-12dBFS
SWFR:	Add L/R signal at -20dBFS.

Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume 0dB	-3.5 dBV	-3.5 dBV	-3.5 dBV	+8.5 dBV	-3.5 dBV	-3.5 dBV



Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

1. DSP THROUGH DSP 0dB

DSP 0dB [Remote control code: 7A—91 (PRG 10)]

- The input signal is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.
- L/R, C/RC, FL/FR, RL/RR and SWFR signals are output through DSP (see the signal path in the figure below) without using the external DRAM. (Head margin included)

Head margin

MAIN L/R:	0dBFS
CENTER:	-6dBFS
REAR CENTER:	-3dBFS
FL/FR:	-6dBFS
RL/RR:	-12dBFS
SWFR:	Add L/R signal at -20dBFS.

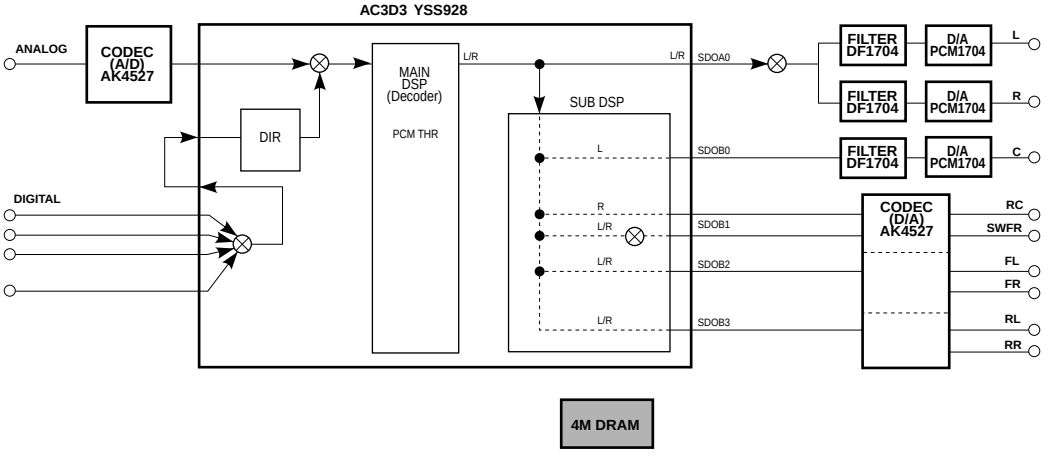
Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

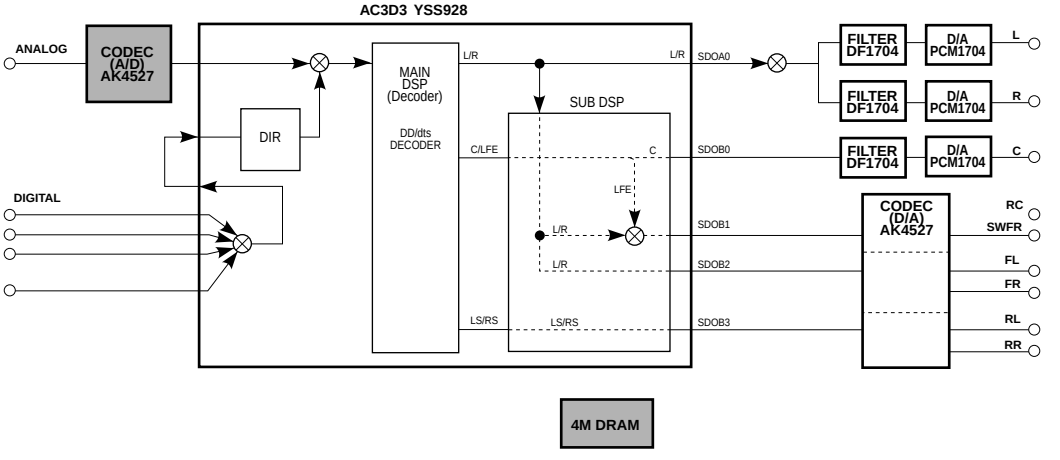
Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume 0dB	-3.5 dBV	-3.5 dBV	-3.5 dBV	+8.5 dBV	-3.5 dBV	-3.5 dBV

(In the case of 2-ch source)



(In the case of multi-ch source)

- AC3D3 outputs signals using DOLBY DIGITAL/dts decode operation.



Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

```
1. DSP THROUGH
   FULL BIT
```

FULL BIT [Remote control code: 7A—92 (PRG11)]
- The head margin is unused and the digital data is output in full bit.
- The same applies as “DSP 0dB” except that the digital data is output in full bit at D/A but SWFR is not output in full bit.

Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume -10dB	-13.5 dBV	-7.5 dBV	-10.5 dBV	-1.5 dBV	-1.5 dBV	-7.5 dBV

2. HP ROUTE (Headphone route)

There are two sub-menu items (0dB, FULL BIT).

```
2. HP ROUTE
   0dB
```

0dB [Remote control code: 7A—93 (PRG12)]
- The input signal is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.
- L/R, C/RC, FL/FR, RL/RR and SWFR signals are output through DSP (see the signal path in the figure below) without using the external DRAM.
  (The SDOB output is inputted to DAC of MAIN L/R. Other than that, everything is the same as DSP THROUGH.)

Head margin

MAIN L/R:	-18dBFS
CENTER:	-6dBFS
REAR CENTER:	-3dBFS
FL/FR:	-6dBFS
RL/RR:	-18dBFS
SWFR:	Add L/R signal at -20dBFS.

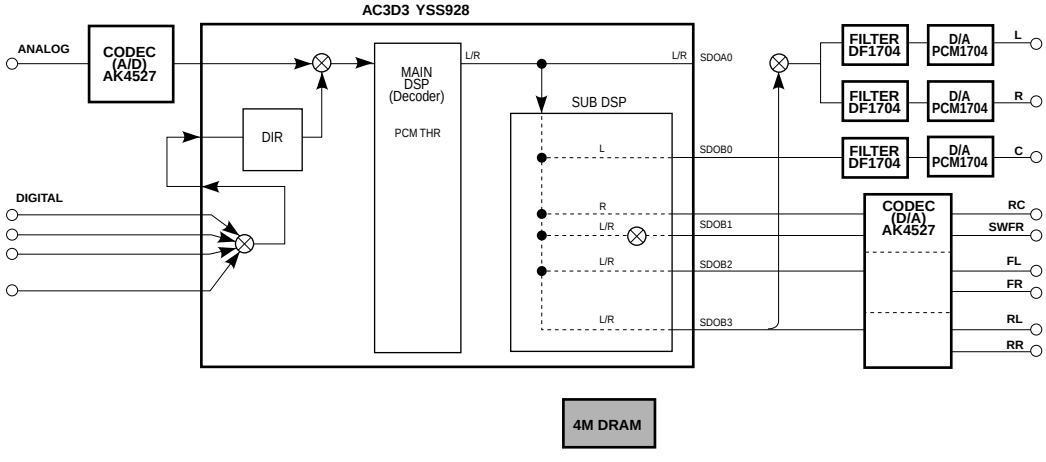
Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume 0dB	-3.5 dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV

(In the case of 2-ch source)

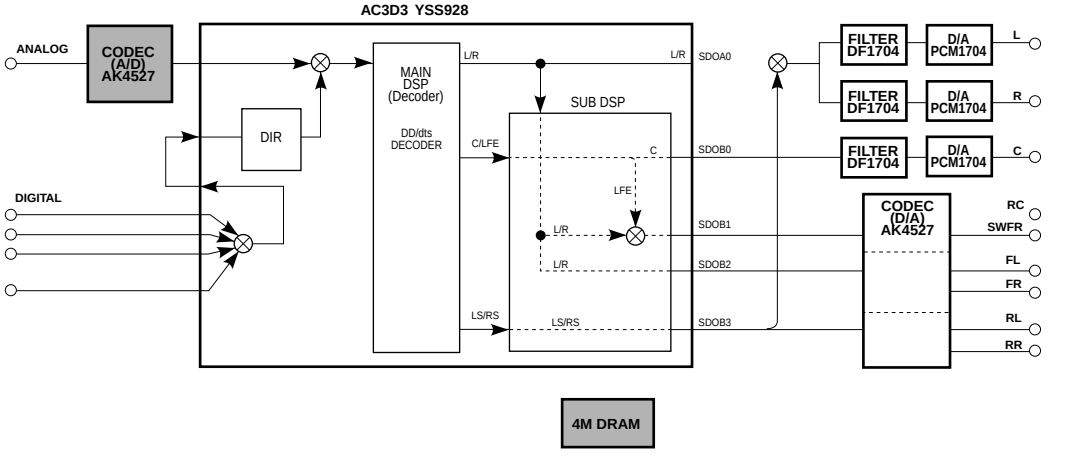


Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

(In the case of multi-ch source)

• AC3D3 outputs signals using DOLBY DIGITAL/dts decode operation.



Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

FULL BIT [Remote control code: 7A—10 (TUNER PRESET +)]

• The head margin is unused and the digital data is output in full bit.

• The same applies as “0dB” except that the digital data is output in full bit at D/A but SWFR is not output in full bit.

Reference (PRE OUT)

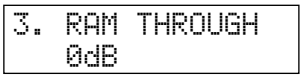
INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume -20dB	-5.5 dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV

3. RAM THROUGH

The input data is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.
The main L/R uses the analog through method when analog signals are input and the DSP through method when digital signals are input.
C/RC, RL/RR and FL/FR signals are output through the external DRAM.



0dB [Remote control code: 7A—11 (TUNER PRESET -)]

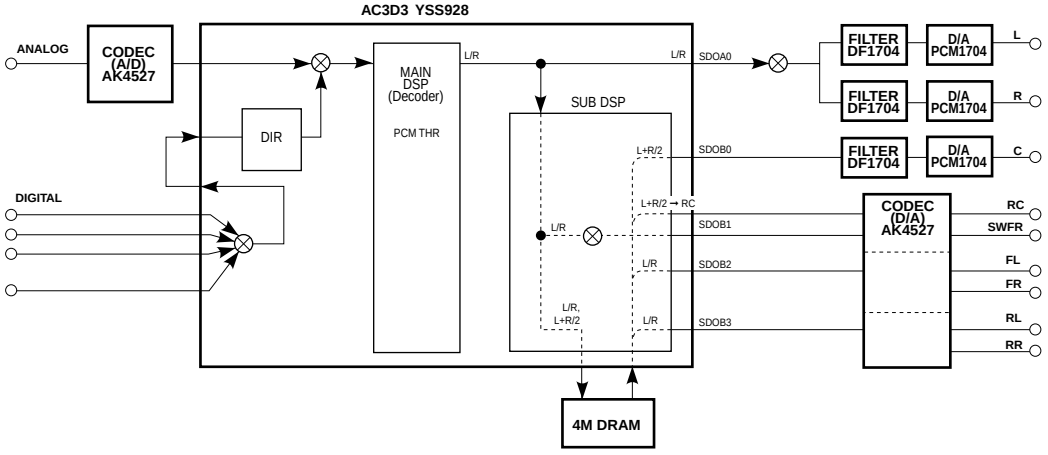
Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

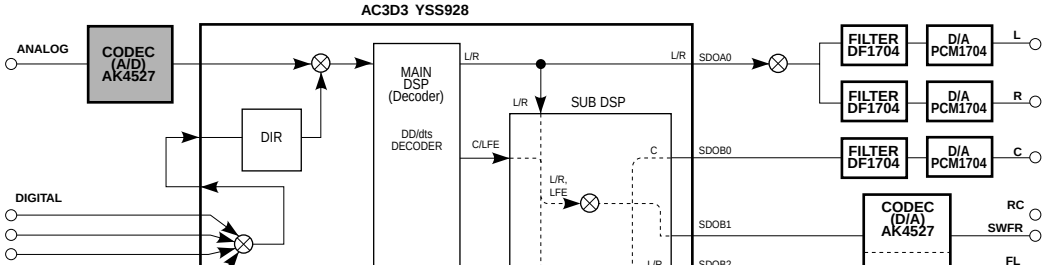
Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume 0dB	-3.5 dBV	-3.5 dBV	-3.5 dBV	+8.5 dBV	-3.5 dBV	-3.5 dBV

(In the case of 2-ch source)



(In the case of multi-ch source)

• AC3D3 outputs signals using DOLBY DIGITAL/dts decode operation.

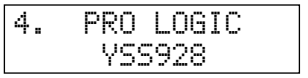


Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

4. PRO LOGIC

The input signal is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.
The operation conforms to the ordinary DOLBY Normal sound field.



YSS928 [Remote control code: 7A—0C (CD FF)]

Reference (PRE OUT)

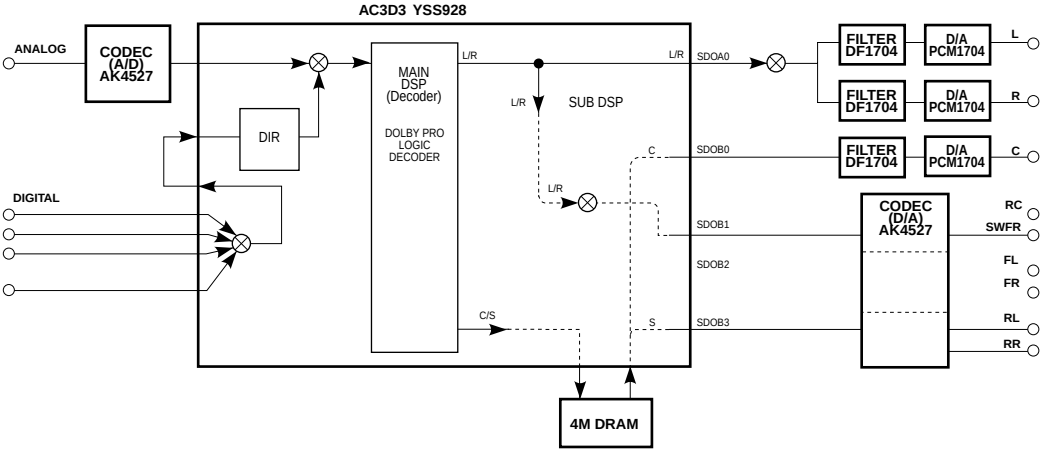
INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

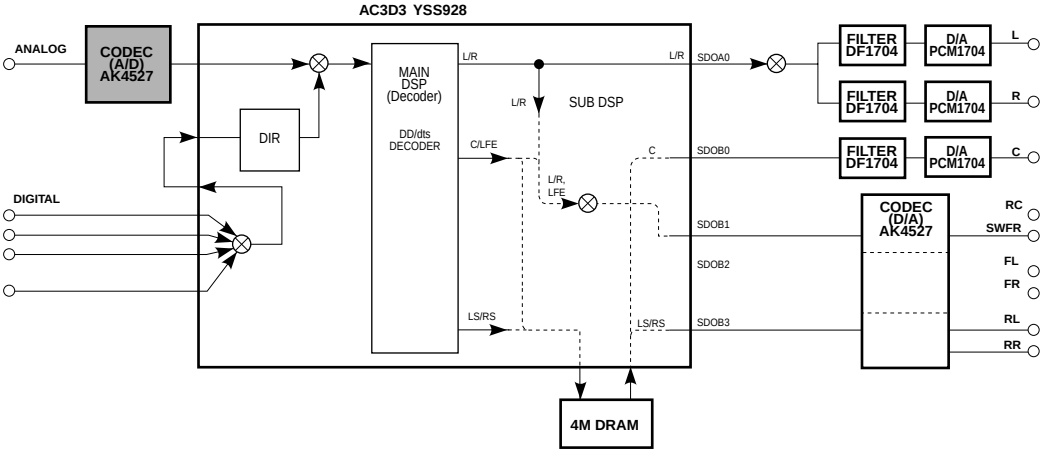
Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Each ch, -20 dBV, volume 0dB	-3.5 dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV
Both ch, -20 dBV, volume 0dB	– ∞ dBV	– 0.5 dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV
Both ch, -20 dBV(reverce phase), volume 0dB	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– 3.5 dBV	– ∞ dBV

(2-ch source)

• AC3D3 outputs signals using PRO LOGIC decoding operation with the auto input balance off.



(DOLBY DIGITAL/dts Normal)

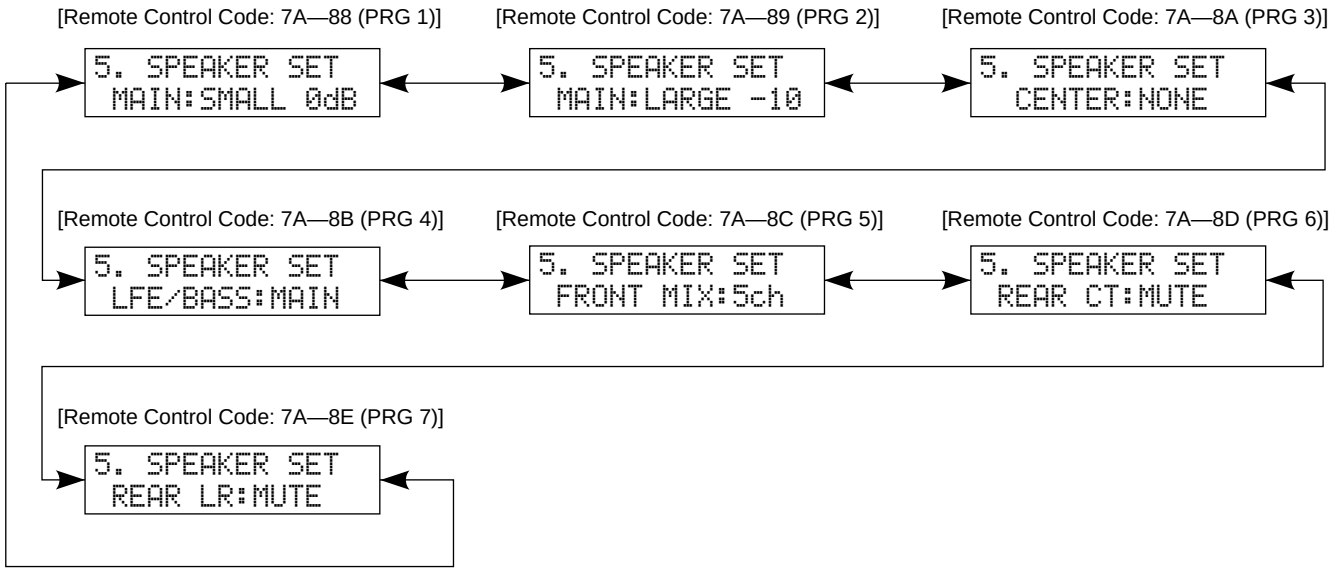


Note: (SDOxx) represents a terminal name of AC3D3.

The shaded square (▭) means that the element included in it does not operate.

5. SPEAKERS SET

The input signal is automatically identified and switched in the priority order of dts → DOLBY DIGITAL → PCM AUDIO → Analog (A/D) according to the signal detection.
There are seven sub-menu items.
The signals output from the DSP are the same as 1. DSP THROUGH: DSP 0dB.



The analog switch settings for each sub-menu are as shown in the table below.

Sub-menu		CENTER	REAR	MAIN SP	MAIN LVL	LFE/BASS	FRONT MIX
1	MAIN : SMALL 0dB	LARGE	LARGE	SMALL	0dB	SWFR	7ch
2	MAIN : LARGE -10	LARGE	LARGE	LARGE	-10dB	BOTH	7ch
3	CENTER : NONE	NONE	LARGE	LARGE	0dB	BOTH	7ch
4	LFE/BASS : MAIN	SMALL	SMALL	LARGE	0dB	MAIN	7ch
5	FRONT MIX : 5ch	LARGE	LARGE	LARGE	0dB	BOTH	5ch
6	REAR CENTER : MUTE	LARGE	LARGE	LARGE	0dB	BOTH	7ch
7	REAR L/R: MUTE	LARGE	LARGE	LARGE	0dB	BOTH	7ch

LARGE: Signals are output in all bandwidths.
SMALL: Signals exceeding 90Hz are cut in LPF.
NONE: The center contents are distributed to the MAIN L/R channels after -3dB.

Reference (PRE OUT)
INPUT : DVD ANALOG (Both ch)
VOLUME : 0 dB

Sub-menu		Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
1	MAIN : SMALL 0dB	1kHz/90Hz, -20 dBV	-3.5/-6.5dBV					
2	MAIN : LARGE -10	1kHz, -20 dBV	-3.5dBV	-3.5dBV	-3.5dBV	+8.5dB	-3.5dBV	-3.5dBV
3	CENTER : NONE	1kHz, -20 dBV	-6.5dBV	- ∞ dBV	-3.5dBV	+8.5dB	-3.5dBV	-3.5dBV
4	LFE/BASS : MAIN	50Hz, -20 dBV	-2.0dBV	-6.5dBV(90Hz)	-3.5dBV	- ∞ dBV	-6.5dBV(90Hz)	-3.5dBV
5	FRONT MIX : 5ch	1kHz, -20 dBV	-3.5dBV	-3.5dBV	-3.5dBV	+8.5dB	-3.5dBV	-3.5dBV
6	REAR CENTER : MUTE	1kHz, -20 dBV	-3.5dBV	-3.5dBV	- ∞ dBV	+8.5dB	-3.5dBV	-3.5dBV
7	REAR L/R: MUTE	1kHz, -20 dBV	-3.5dBV	-3.5dBV	-3.5dBV	+8.5dB	- ∞ dBV	-3.5dBV

6. DISPLAY CHK

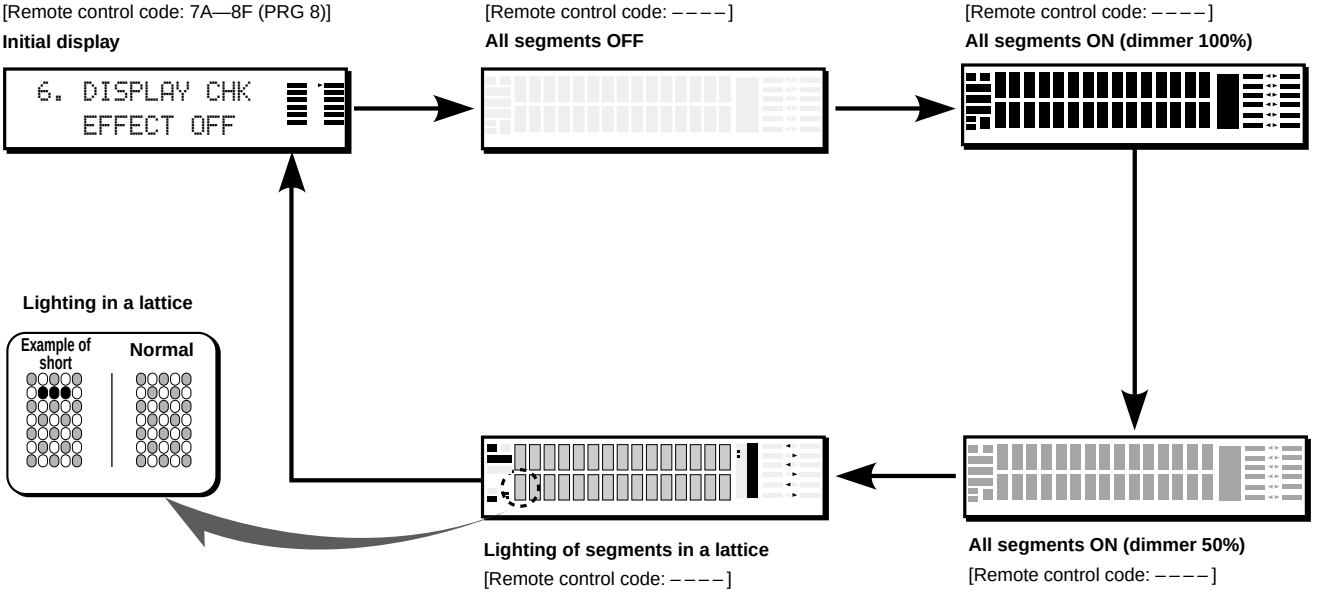
This program is used to check lighting of the FL display which changes as shown below according to operation of the sub-menu.
The signals are processed using EFFECT OFF. (The L/R signals are output using ANALOG MAIN BYPASS setting.)
The video signal internal/external synchronization switching is controlled by the microprocessor. When the initial message is displayed and all the FL segments light up, it is switched to internal synchronization but other than that it is forced to the external synchronization setting.
Also, except for the initial display, 128 pictographs for checking the OSD driver are used for the video signal output display (monitor screen).

Reference (PRE OUT)

INPUT : DVD ANALOG

SWFR: 50Hz, Others: 1kHz

Condition	MAIN L/R	CENTER	REAR C	SWFR	REAR L/R	FRONT L/R
Both ch, -20 dBV, volume 0dB	-3.5 dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV	– ∞ dBV


[Remote control code: 7A—8F (PRG 8)]
Initial display
6. DISPLAY CHK
EFFECT OFF
[Remote control code: – – – –]
All segments OFF
[Remote control code: – – – –]
All segments ON (dimmer 100%)
Lighting in a lattice
Example of short
Normal
Lighting of segments in a lattice
[Remote control code: – – – –]
All segments ON (dimmer 50%)
[Remote control code: – – – –]

Segment conditions of the FL driver (IC901, IC902) and the FL tube are checked by turning ON and OFF all segments. Next, the operation of the FL driver is checked by using the dimmer control. Then a short between segments next to each other is checked by turning ON and OFF all segments alternately (in a lattice). (In the above example, the segments in the second row from the top are shorted.)

7. MANUAL TEST

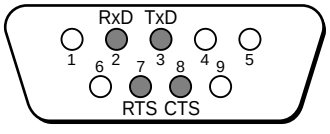
The test noise is output by the noise generator with a built-in DSP from the channels specified by the sub-menu. There are ten sub-menu items.

```
7. MANUAL TEST
      ALL
```

ALL [Remote control code: 7A—00 (TAPE PLAY)]
Noise is output from all channels.
MAIN L [Remote control code: 7A—01 (TAPE RW)
Noise is output from the MAIN L channel.
CENTER [Remote control code: 7A—02 (TAPE FW)]
Noise is output from the CENTER channel.
MAIN R [Remote control code: 7A—03 (TAPE STOP)]
Noise is output from the MAIN R channel.
REAR R [Remote control code: 7A—04 (TAPE REC)]
Noise is output from the REAR R channel.
REAR C [Remote control code: 7A—05 (TAPE MUTE)]
Noise is output from the REAR CENTER channel.
REAR L [Remote control code: 7A—06 (TAPE A/B)]
Noise is output from the REAR L channel.
FRONT L [Remote control code: 7A—07 (TAPE DIR A)]
Noise is output from the FRONT L channel.
FRONT R [Remote control code: 7A—08 (CD PLAY)]
Noise is output from the FRONT R channel.
LFE [Remote control code: 7A—09 (CD STOP)]
Noise is output from the LFE (sub-woofer) channel.

8. RS-232C

This menu is used to check transmission of the data and the flow port of the hardware.
With the power turned off, short between pins No.2 (RxD) and No.3 (TxD) and between pins No.7 (RTS) and No.8 (CTS) of the RS-232C terminal. (Be sure to turn off the power when shorting pins.)
Start DIAG and select the menu.
There are two sub-menu items.
The signals are processed using EFFECT OFF. (The L/R signals are output using ANALOG MAIN BYPASS setting.)




```
8.  RS-232C
TxD/RxD DATA:XX
```

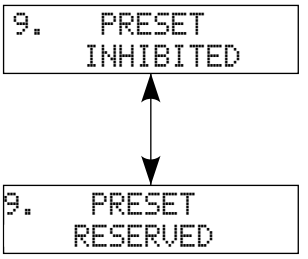
TxD/RxD DATA [Remote control code: – – – –]
This sub-menu is used to check transmission of the test data. “OK” appears when the data is transmitted properly and “NG” when it is not.
In this mode, NULL command transmission is continued after the test command is transmitted.

```
8.  RS-232C
  HARD FLOW :XX
```

HARD FLOW [Remote control code: – – – –]
This sub-menu is used to check operation of the flow port of the hardware. “OK” appears when the check result is satisfactory and “NG” when it is not.

9. PRESET

This menu reserves and inhibits initialization of the back-up RAM (parameter, set menu contents, etc. for the sound field program).
The signals are processed using EFFECT OFF. (The L/R signals are output using ANALOG MAIN BYPASS setting.)



INHIBIT (Initialization inhibited) [Remote control code: – – – –]
RAM initialization is not executed. Select INHIBIT to protect the values set by the user.

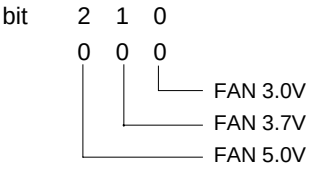
RESERVED (Initialization reserved) [Remote control code: 7A—57 (SLEEP)]
Initialization of the back-up RAM is reserved. RESERVED should be selected when shipping out of the factory or resetting RAM. Protection history is also cleared.

* In order to ensure that back-up RAM be initialized without fail, turn off the power and then on by pressing the POWER (STANDBY/ON) key after selecting RESERVED. Initialization is executed at this point.

10. FAN/AD

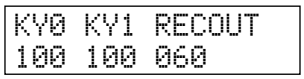
The sub-menu of this menu displays the A/D conversion value of the CPU (function circuit board IC526) which detects the keys and protection functions of the main unit in %. (reference voltage 5V: 100%)
It also displays the history of the fan being driven. When in KY0/KY1/RECOUT page, it is not possible to operate the keys of the main unit because the values of all keys are detected. But one click on the VOLUME of the main unit will cancel this function and sets to the next sub-menu. The signal processing state remains the same as that before executing this menu.

FAN HISTORY (History of fan being driven) [Remote control code: – – – –]
The voltage value detected from the temperature detect circuit is read by the A/D function of the microprocessor as a data. Based on that temperature data, the fan driving speed is controlled in 3 stages. How the fan has been driven is displayed as the history.



When there is a history of the fan operation: 1

* Selecting “RESERVED” for DIAG menu No.9 will clear the history.



KY0/KY1/RECOUT (Detection of key scan/REC OUT)[Remote control code: – – – –]

KY0/KY1: Panel key of the main unit (10% step)

• When the standard value is deviated by ±4%, KEY A/D fails to function properly. In this case, check the circuit voltages, soldering condition, etc.

Indicate	KY0
0	INPUT ▷
10	INPUT ◁
20	INPUT MODE
30	DIAG(*1)
40	6CH INPUT
50	EFFECT
60	SPEAKERS A
70	SPEAKERS B
80	PROC. DIRECT
90	BASS EXTENS.
100	KEY OFF state

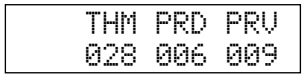
Indicate	KY1
0	–
10	–
20	–
30	–
40	–
50	–
60	–
70	–
80	–
90	–
100	KEY OFF state

(*1) : “EFFECT” and “6CH INPUT” keys pressed simultaneously

RECOUT: Indicates selected REC OUT position

Indicate	REC OUT
0	MD/TAPE
15	SAT
30	CD
44	V-AUX
60	SOURCE
76	CABLE
92	PHONO
122	CD-R
137	VCR 1
153	TUNER
170	VCR 2/DVR
186	DVD
202	D-TV/LD

(AD conversion value 100%: 255)



The above figures are examples for reference.

THM/PRD/PRV [Remote control code: 7A—0B (CD SKIP –)]
(Detection of the temperature of the heat sink and protection function)

THM: Detection of the temperature of the heat sink (Normal value: 6~40) 0.3V~ 2.0V (reference voltage)
At 5% or less, the protection function works to turn off the power. At more than 40%, possibility is that there is an error in the temperature detection system.

PRD: Protection value for DC detection (Normal value: 1~13) 0.05V~ 0.65V (reference voltage)
When the value is out of the normal value range, the protection function works to turn off the power.

PRV: Protection value for power voltage (Normal value: 5~15) 0.25V~ 0.75V (reference voltage)
When the value is out of the normal value range, the protection function works to turn off the power.

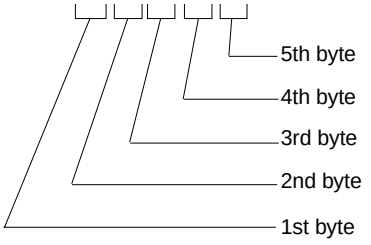
11. IF STATUS (Input function status)

Using this menu, the status data is displayed in the hexadecimal notation one after another.
During signal processing, the status before execution of this menu is maintained.
To convert the analog input to the digital input, use the following procedure.
1) Select either DIAG menu No.3 or No.4 and enter a digital signal.
2) Menu No.11 can be selected by pressing the INPUT MODE key of the main unit. (The input mode will be fixed to the digital mode.)

There are 17 sub-menu items.
The following status information is displayed in the hexadecimal notation according to the sub-menu operation.

```
11. IF STATUS
IFST:4403070500
```

IFST: Indicates the information of the microprocessor.



1st byte

Indicates the digital selector posision information.
(Upper 4 bits REC OUT selected / lower 4 bits INPUT selected)

Indicate	Selector Position
0	NONE
1	FRONT (VIDEO AUX)
2	OPT1 (CD)
3	OPT2 (CD-R)
4	OPT3 (DVD)
5	OPT4 (D-TV/LD)
6	OPT5 (SAT)
7	OPT6 (–)
8	COAX1 (CD)
9	COAX2 (CABLE)
A	COAX4 (–)
B	COAX5 (–)
C	COAX3 (LD □□ RF) R, T only
D	RF
E	NONE
F	NONE

2nd byte

Indicates the Fs information of the reproduction signals.

Indicate	Fs (kHz)
00	Analog
01	32
02	44.1
03	48
04	64
05	88.2
06	96
07	Unknown NRM (*1)
08	Unknown DBL (*2)
09	Undefined

(*1): Unknown (format) sample frequency lower than 48kHz.
(*2): Unknown sample frequency exceeding 48kHz.

3rd byte

Indicates the audio code mode information of the reproduction signals.

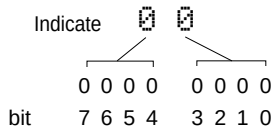
Indicate	Audio Code
00	1 + 1
01	1/0
02	2/0
03	3/0
04	2/1
05	3/1
06	2/2
07	3/2
08	2/3
09	3/3
0A	dts7.1
0B	Undefined

4th byte

Indicates the format information of the reproduction signals.

Indicate	Format
00	Analog (Unlock)
01	Wrong digital (*1)
02	Digital Data
03	IEC1937 Data
04	PCM Audio
05	Dolby Digital
06	D.D. Karaoke
07	D.D. EX
08	RED dts
09	ORANGE dts
0A	dts ES
0B	NONE PCM

(*1): Digital reproduction cannot be used due to a commercial bit or 4ch audio reason. Analog reproduction is used instead.



Indicate	bit			
	7	6	5	4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Indicate	bit			
	3	2	1	0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

5th byte

Indicates the information on the signal processing status.

bit7	MUTE requested
bit6	dts flashing (Red)
bit5	EX sound field being processed
bit4	Full mute (On: 1)
bit3	–
bit2	THROUGH & BYPASS (*2)
bit1	–
bit0	dts analog mute

(*2): In the case of digital signals other than 32kHz, 44.1kHz and 48kHz, through processing is used for reproducible signals.

CHS 1 – 4: IEC60958 channel status information of input signals

```
11. IF STATUS
CHS1:0299000200
```

- - - - -

```
11. IF STATUS
CHS5:0000000000
```

BSI 1 – 4: Bit stream information included in the DOLBY DIGITAL signal indicated one by one.

```
11. IF STATUS
BSI1:0000000000
```

- - - - -

```
11. IF STATUS
BSI4:0000000000
```

BDS 1 – 4: Bit stream information included in the dts signal indicated one by one.

```
11. IF STATUS
BDS1:FFFFFFFFFF
```

- - - - -

```
11. IF STATUS
BDS4:FFFFFFFFFF
```

YSS 1 – 3: Device status information of YSS928 (IC501)

* The numeric values in each example are for reference.

```
11. IF STATUS
YSS1:FE0218070F
```

Byte No.	Function
1	YSS MUTE Reg
2	YSS MODE Reg
3	YSS IPORT BIT 7 – 0
4	YSS IPORT BIT 14 – 8
5	YSS OPORT

```
11. IF STATUS
YSS2:0101418000
```

Byet No.	Function
1	IEC1937 Preamble Pc
2	AC-3 Data Stream No
3	AC-3D Decode Status
4	YSS ZERO Reg
5	MIREG

```
11. IF STATUS
YSS3:1A41803D
```

Byte No.	Function
1	DIR Status
2	DIR fs
3	DIR fs count
4	YSS ZEROBF

12. DSP RAM CHECK [Remote control code: 7A—0A (CD SKIP +)]

This menu is used to self-diagnose whether or not YSS928 (IC501 of DSP circuit board) and external RAM (IC502 of DSP circuit board) are connected properly.
During signal processing, the status before execution of this menu is maintained.

```
12.DSP RAM CHK
   NoEr
```

Checks the address bus and the data bus, and indicates the connection condition.
"NoEr" appears when no error is detected.

Indicate	Function
WAIT	Bus being checked
NoEr	No error detected
DATA	Short or open of data bus
ADDR	Short or open of address bus

13. SUM/VER /PORT

There are four sub-menu items.
Indicates the program version, checksum, specified port of the microprocessor (IC526 of the function circuit board).
The checksum is obtained by adding data for every 16 bits for each program area and expressing the result as a 4-figure hexadecimal data.

The signals are processed using EFFECT OFF. (The L/R signals are output using ANALOG MAIN BYPASS setting.)

```
13.SUM/VER/PORT
VER. XXXXXXXX
```

Version [Remote control code: 7A—0D (CD REW)]
Release 1 figure / Main 2 figures / DSP 2 figures / communication 1 figure / Boot manufacture 1 figure / Boot 232C 1 figure

```
13.SUM/VER/PORT
A:XXXX  P:XXXX
```

Checksum [Remote control code: – – – –]

A: All
P: Program area

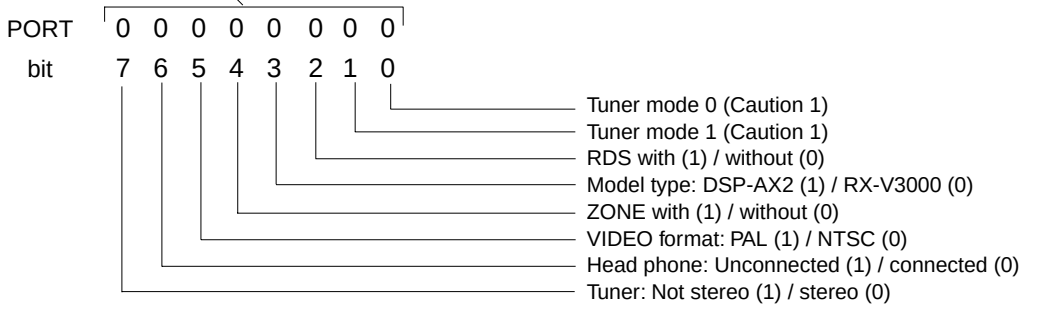
```
13.SUM/VER/PORT
2:XXXX  M:XXXX
```

Checksum [Remote control code: – – – –]

2: Boot 232C section
M: Boot maker section

```
13.SUM/VER/PORT
PORT:00000000
```

Check of port settings for judging microprocessor function
[Remote control code: – – – –]


PORT 0 0 0 0 0 0 0 0
bit 7 6 5 4 3 2 1 0
Tuner mode 0 (Caution 1)
Tuner mode 1 (Caution 1)
RDS with (1) / without (0)
Model type: DSP-AX2 (1) / RX-V3000 (0)
ZONE with (1) / without (0)
VIDEO format: PAL (1) / NTSC (0)
Head phone: Unconnected (1) / connected (0)
Tuner: Not stereo (1) / stereo (0)

(Caution 1)

Tuner mode 0	Tuner mode 1	Tuner frequency
0	0	AM : 531-1611kHz/9kHz FM : 76.0-90.0MHz/100kHz (J)
0	1	AM : 531-1611kHz/9kHz FM : 87.5-108.0MHz/50kHz (A, L, B, G)
1	0	AM : 530-1710kHz/10kHz FM : 87.5-107.9MHz/200kHz (U, C)
1	1	As set by FREQUENCY STEP switch (R, T)

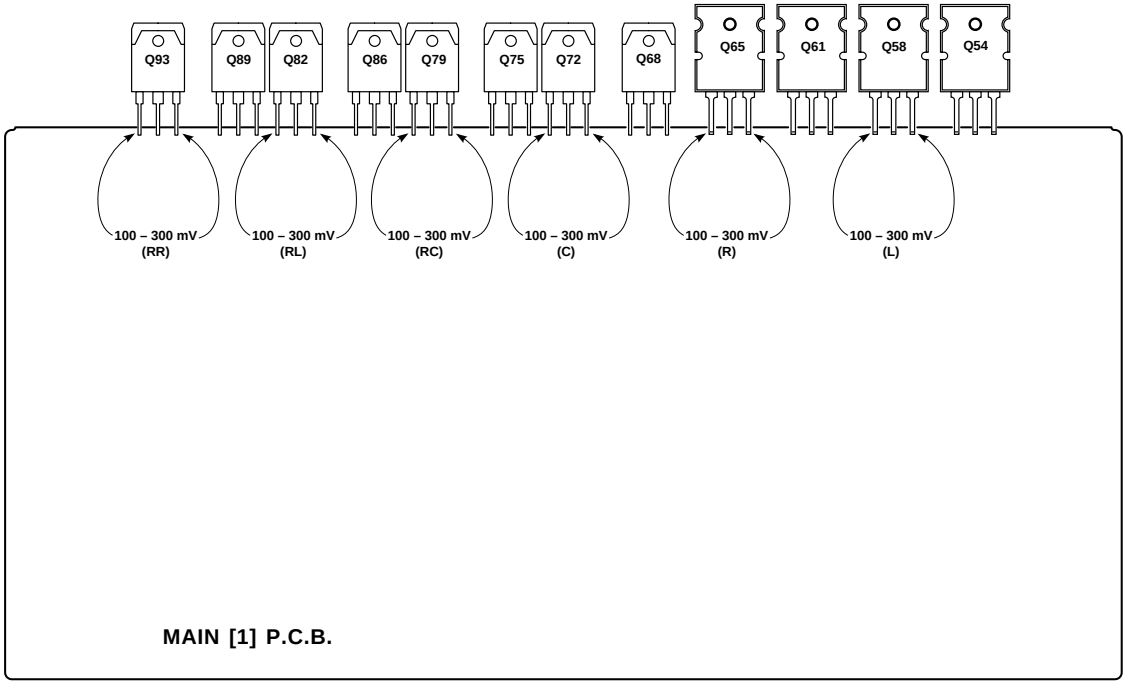
■ AMP CHECK

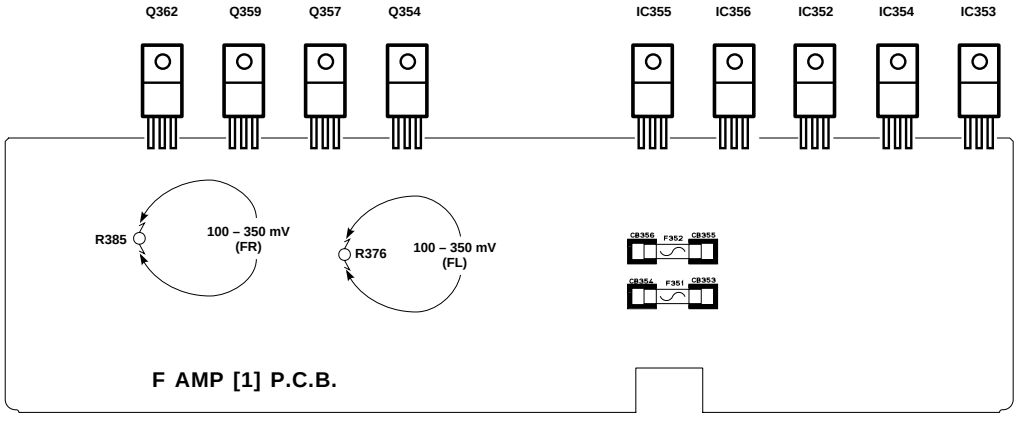
● Confirmation of Idling Current

1) No signal applied.
2) Non-loaded condition.
3) Aging is 10 minutes

Item	Test Point	Rating (DC)
MAIN L	Q58 Base – Emitter (MAIN [1] P.C.B.)	100mV – 300mV
MAIN R	Q65 Base – Emitter (MAIN [1] P.C.B.)	
CENTER	Q72 Base – Emitter (MAIN [1] P.C.B.)	
REAR CT	Q79 Base – Emitter (MAIN [1] P.C.B.)	
REAR L	Q86 Base – Emitter (MAIN [1] P.C.B.)	
REAR R	Q93 Base – Emitter (MAIN [1] P.C.B.)	
FRONT L	Both ends of R376 (F AMP [1] P.C.B.)	100mV – 350mV
FRONT R	Both ends of R385 (F AMP [1] P.C.B.)	

● Test Point

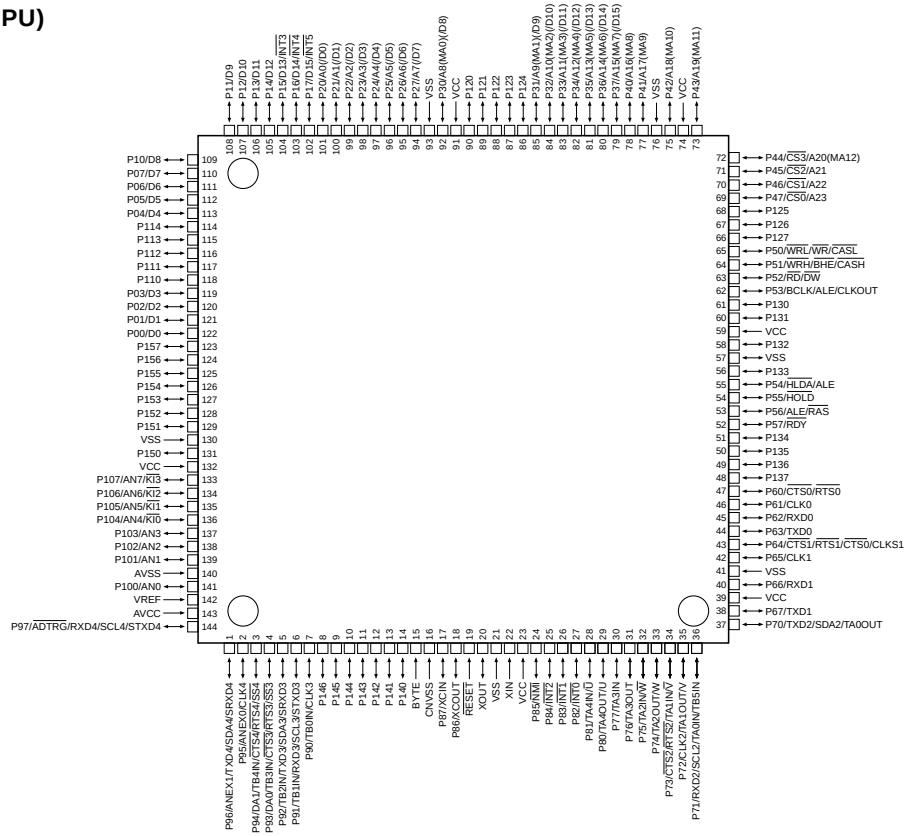


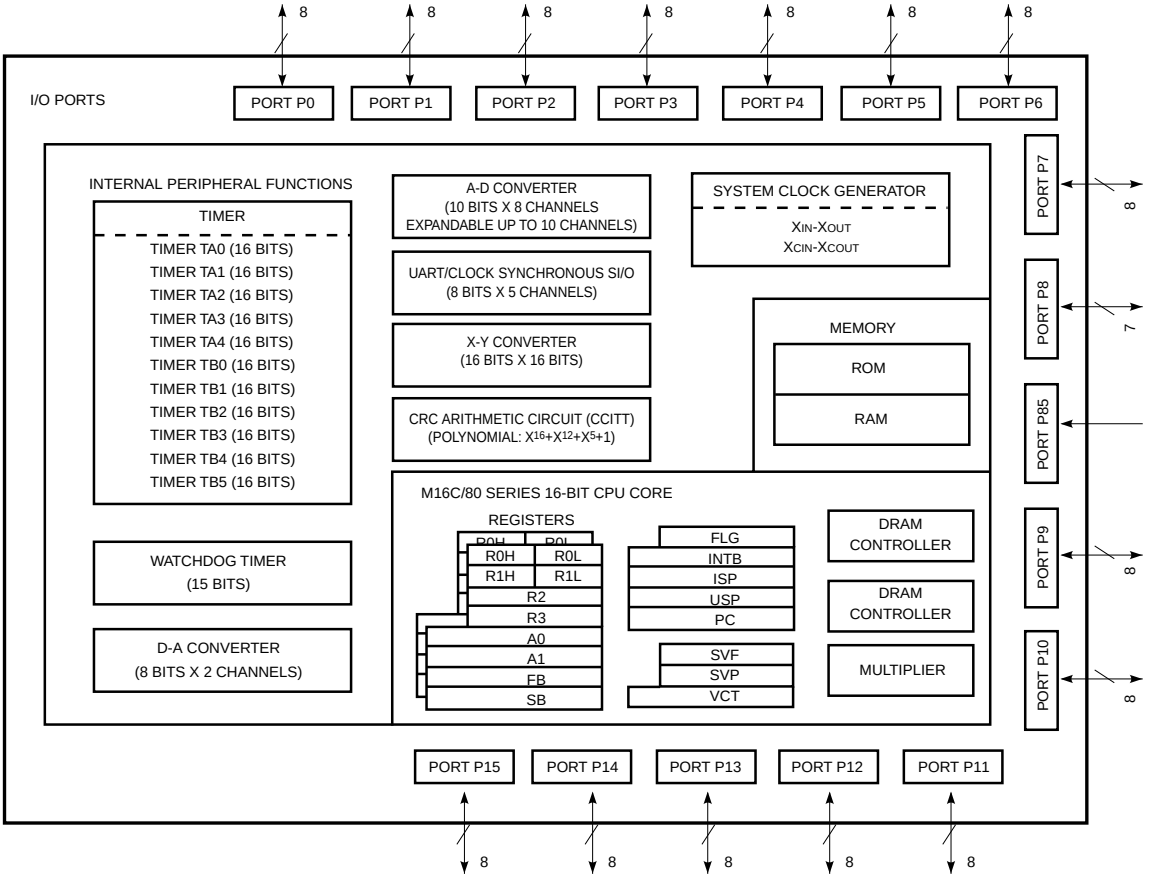


■ IC DATA

IC526 : M30802SGP (FUNCTION P.C.B.)

16 bit μ-COM (CPU)





IC526 : M30802SGP (FUNCTION P.C.B.)

16 bit μ-COM (CPU)

No.	PORT	Name	Function	Power On	Power Off	Backup
1	TXD4	TXDR	232C Transmission Data	O	OL	OL
2	P95	RTS	232C RTS out	I/O	OL	OL
3	CTS4	CTS	232C CTS input	I	I	OL
4	DA0	FAN	Fan Control	I	I	OL
5	P92	SDTN	SDT for Non Audio	SO	OL	OL
6	P91	RXRDS	RDS Reception/Frequency Switch (Not used: H, Fixed)	I	I	
7	P90	SCKN	SCK for Non Audio	SCK	OL	OL
8	P146	I/E	Internal/External Synchronous output	O	OL	OL
9	P145	CEB	CE for BU2092/ZONE2 function (0: Not, Fixed)	O	OL	OL
10	P144	/FLR	FL IC Reset	O	OL	OL
11	P143	CEM0	CE for FL1	O	OL	OL
12	P142	CEM1	CE for FL2	O	OL	OL
13	P141	RDSE	CE for RDS/RDS function (Not used: open)	O	OL	OL
14	P140	CES	CE for On Screen/Video format (0: NTSC, 1: PAL)	O	OL	OL
15	BYTE	BYTE	External data bus width select input (16bit width: VSS)	VSS	VSS	VSS
16	CNVSS	CNVSS	Microprocessor mode select input (Microprocessor mode: VCC)	VCC	VCC	VCC
17	P87	MODEL	Model detect (0 : RX-V3000, 1 : DSP-AX2)	I	I	OL
18	P86	BOOT	232C Boot terminal (Not used)	I	I	OL
19	RESET	/RES	Reset input	---	---	---
20	XOUT	XO	Clock output	---	---	---
21	VSS	VSS	Ground	---	---	---
22	XIN	XI	Clock input	---	---	---
23	VCC	VCC	+ 5V	---	---	---
24	NMI	NMI	Not used (pull-up VCC)	---	---	---
25	INT2	REM	Remote in (Low Edge : Interrupt)	I	I	OL
26	INT1	PSW	Power Switch (High Edge : Interrupt)	I	I	OL
27	INT0	PDT	Power Detect (Low Edge : Interrupt)	I	I	I
28	P81	VSY	Video Vertical Sync	I	I	OL
29	P80	/ICD	IC for YSS928/DA/DF/CODEC/DEM	O	OL	OL
30	P77	RXDR	232C Reception Data (Connection pin 144)	I	I	OL
31	P76	DMT	Digital Full Mute	O	OL	OL
32	P75	INT928	YSS928 IPINT/MUTE/DIR	I	I	OL
33	P74		Unconnected	O	OL	OL
34	P73	CEP	CE for Tuner PLL IC (Not used: open)	O	OL	OL
35	P72	SCKP	SCK for Tuner PLL IC (Not used: open)	O	OL	OL
36	P71	RDTP	Reception Data for Tuner PLL IC (Not used: open)	I	I	OL
37	P70	SDTP	Transmission Data for Tuner PLL IC (Not used: open)	O	OL	OL
38	P67	SDM	Transmission Data for YSS928	SO	OL	OL
39	VCC	VCC	+ 5V	---	---	---
40	P66	SDD	Reception Data for YSS928	SI	I	OL
41	VSS	VSS	Ground	---	---	---
42	P65	SCK	CLK for YSS928	SCK	OL	OL
43	P64	CSY	CE for YSS928	O	OL	OL
44	P63	DTC	SDT for CS3310	SO	OL	OL
45	P62	CEC	CE for CS3310	O	OL	OL
46	P61	CKC	SCK for CS3310	SCK	OL	OL
47	P60	CSV	Power control for CS3310	O	OL	OL
48	P137	/CSM	Reset for CS3310	O	OL	OL
49	P136	VRB	Volume Rotary B	I	I	OL
50	P135	VRA	Volume Rotary A	I	I	OL
51	P134	PRI	I Protection	I	I	I
52	/RDY	/RDY	While the input level of the RDY pin is "L", the microcomputer is in the ready state	---	---	HI
53	ALE	ALE	Unconnected	---	---	HI
54	/HOLD	/HOLD	While the input level at the HOLD pin is "L", the microcomputer is placed in the hold state	---	---	HI
55	/HLDA	HLDA	Unconnected	---	---	HI

IC526 : M30802SGP (FUNCTION P.C.B.)

16 bit μ-COM (CPU)

No.	PORT	Name	Function	Power On	Power Off	Backup
56	P133	/BEC	Bass Extension Control	O	OL	OL
57	VSS	VSS	Ground	---	---	---
58	P132	/Z2MT	ZONE2 Mute	O	OL	OL
59	VCC	VCC	+ 5V	---	---	---
60	P131	/HPMT	Head Phone Mute	O	OL	OL
61	P130	/FMTF	Full Mute (FL/FR)	O	OL	OL
62	BCLK	BCLK	Unconnected	---	---	HI
63	/RD	/RD	OE for Flash Memory	---	---	HI
64	/BHE	BHE	Unconnected	---	---	HI
65	/WR	/WR	WE for Flash Memory	---	---	HI
66	P127	/FMTS	Full Mute (SWL/SWR/SW MONO)	O	OL	OL
67	P126	/FMTC	Full Mute (CENTER)	O	OL	OL
68	P125	/FMTM	Full Mute (L/R/RL/RC/RR)	O	OL	OL
69	/CS0	CS0	CE for Flash Memory	---	---	---
70	/CS1	CS1	Unconnected	---	---	---
71	/CS2	CS2	Unconnected	---	---	---
72	/CS3	CS3	Unconnected	---	---	---
73	A19	A19	Unconnected	---	---	---
74	VCC	VCC	+ 5V	---	---	---
75	A18	A18	Address bus	---	---	---
76	VSS	VSS	Ground	---	---	---
77	A17	A17	Address bus	---	---	---
78	A16	A16	Address bus	---	---	---
79	A15	A15	Address bus	---	---	---
80	A14	A14	Address bus	---	---	---
81	A13	A13	Address bus	---	---	---
82	A12	A12	Address bus	---	---	---
83	A11	A11	Address bus	---	---	---
84	A10	A10	Address bus	---	---	---
85	A9	A9	Address bus	---	---	---
86	P124	SCKA	SCK for Audio IC	O	OL	OL
87	P123	SDTA	SDT for Audio IC	O	OL	OL
88	P122	CEL	CE for Audio IC (Sanyo)	O	OL	OL
89	P121	LD	Power limiter A	O	OL	OL
90	P120		Unconnected	O	OL	OL
91	VCC	VCC	+ 5V	---	---	---
92	A8	A8	Address bus	---	---	---
93	VSS	VSS	Ground	---	---	---
94	A7	A7	Address bus	---	---	---
95	A6	A6	Address bus	---	---	---
96	A5	A5	Address bus	---	---	---
97	A4	A4	Address bus	---	---	---
98	A3	A3	Address bus	---	---	---
99	A2	A2	Address bus	---	---	---
100	A1	A1	Address bus	---	---	---
101	A0	A0	Unconnected	---	---	---
102	D15	D15	Data bus	---	---	---
103	D14	D14	Data bus	---	---	---
104	D13	D13	Data bus	---	---	---
105	D12	D12	Data bus	---	---	---
106	D11	D11	Data bus	---	---	---
107	D10	D10	Data bus	---	---	---
108	D9	D9	Data bus	---	---	---
109	D8	D8	Data bus	---	---	---
110	D7	D7	Data bus	---	---	---

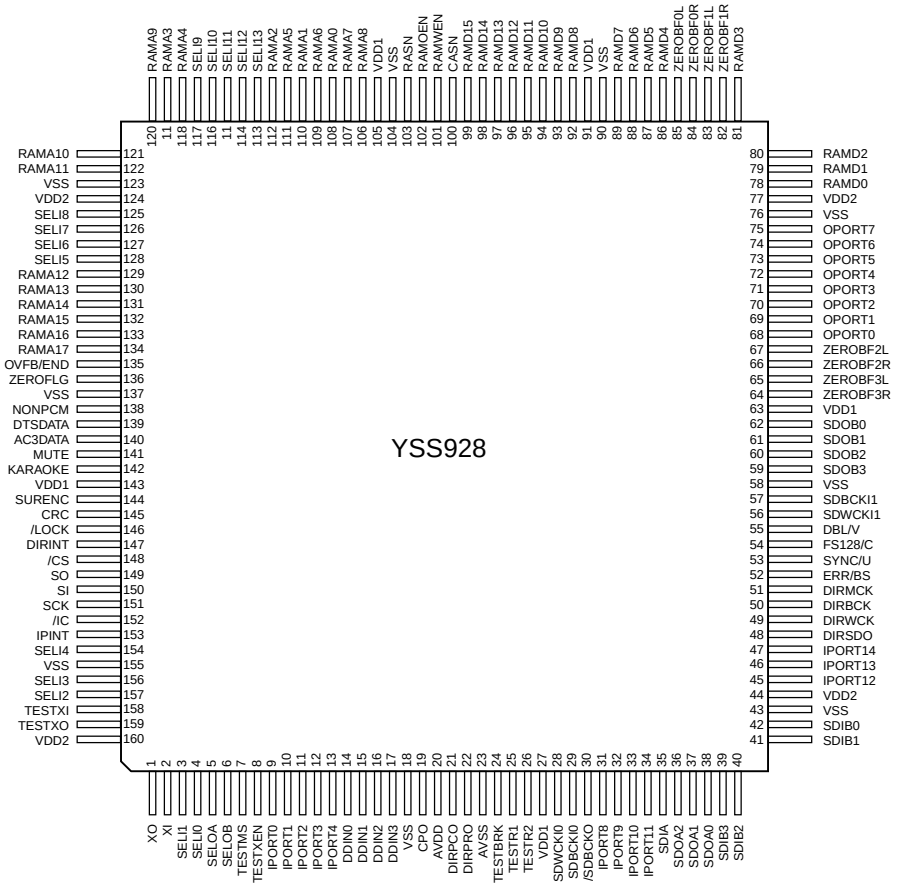
IC526 : M30802SGP (FUNCTION P.C.B.)

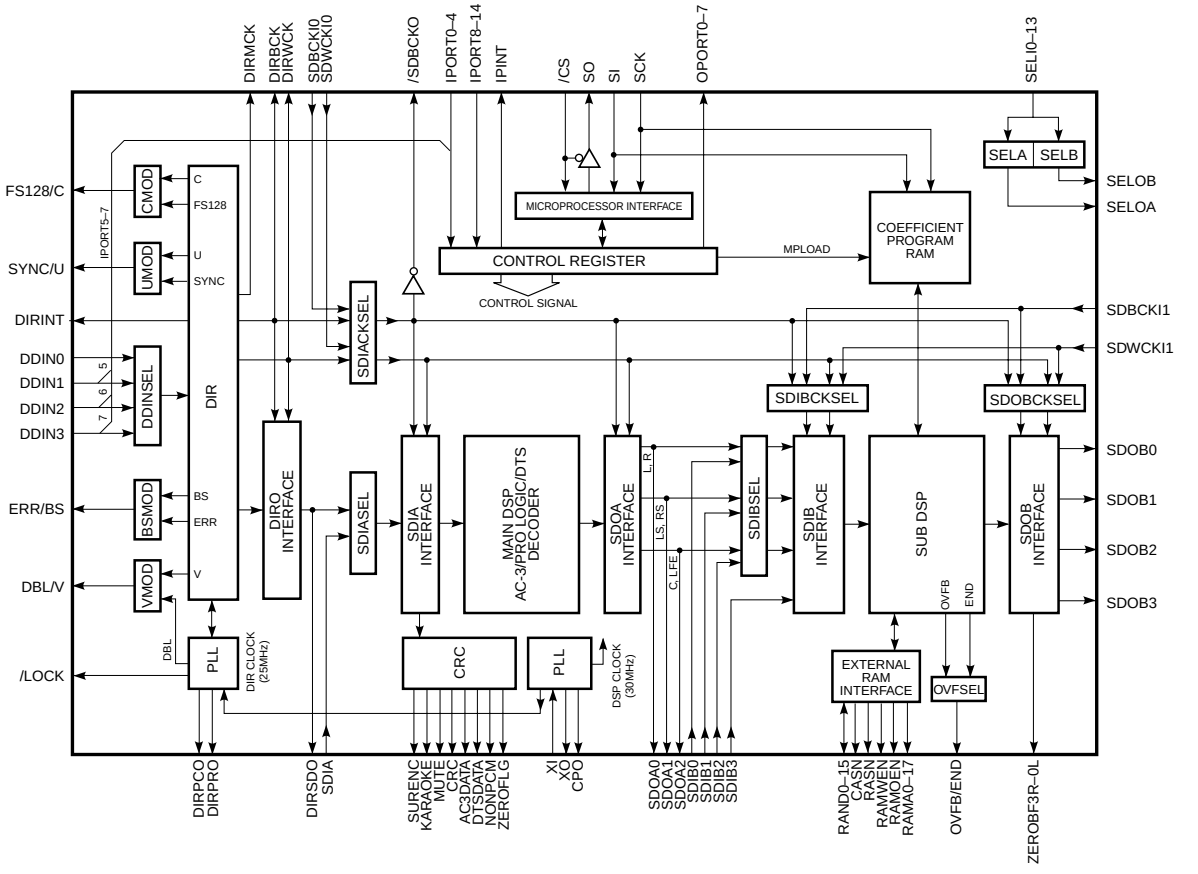
16 bit μ-COM (CPU)

No.	PORT	Name	Function	Power On	Power Off	Backup
111	D6	D6	Data bus	---	---	---
112	D5	D5	Data bus	---	---	---
113	D4	D4	Data bus	---	---	---
114	P114	/MLV	Main Level Select (0/-10dB)	O	OL	OL
115	P113	PRY	Power Relay	O	OL	OL
116	P112	SPE	Speaker Relay Effect	O	OL	OL
117	P111	SPB	Speaker Relay Main B	O	OL	OL
118	P110	SPA	Speaker Relay Main A	O	OL	OL
119	D3	D3	Data bus	---	---	---
120	D2	D2	Data bus	---	---	---
121	D1	D1	Data bus	---	---	---
122	D0	D0	Data bus	---	---	---
123	P157	TUN0	Tuner Mode 0 (Not used: open)	I	I	OL
124	P156	TUN1	Tuner Mode 1 (Not used: open)	I	I	OL
125	P155	PRB/D	DSP PROGRAM Selector B	I	I	OL
126	P154	PRA/B	DSP PROGRAM Selector A	I	I	OL
127	P153	/HPI	Head Phone Detect	I	I	OL
128	P152	/TMT	Tuner Mute (Not used: open)	O	OL	OL
129	P151	TUNED	Tuner Meter (Not used: open)	I	I	OL
130	VSS	VSS	Ground	---	---	---
131	P150	/ST	Tuner Stereo (Not used: open)	I	I	OL
132	VCC	VCC	+ 5V	---	---	---
133	AN7	LMV	Power Limiter Market Detect	I	I	I
134	AN6	REC	REC OUT Selector	I	I	I
135	AN5	PRMT	Power Limiter Detect	I	I	I
136	AN4	KY1	Key State 1	I	I	I
137	AN3	KY0	Key State 0	I	I	I
138	AN2	THM	Thermal Detect	I	I	I
139	AN1	PRD	Power Amp DC Protection	I	I	I
140	AVSS	AVSS	Ground for AD	VSS	VSS	VSS
141	AN0	PRV	V Protection	I	I	I
142	VREF	VREF	Reference voltage for AD	VCC	VCC	VCC
143	AVCC	AVCC	Power Supply for AD	VCC	VCC	VCC
144	RXD4	RXDR	232C Reception Data	I	I	OL

IC501 : YSS928 (DSP P.C.B.)

AC3D3





IC501 : YSS928 (DSP P.C.B.)

AC3D3

No.	Name	I/O	Function	
1	XO	O	Crystal oscillator connecting terminal	
2	XI	I	Crystal oscillator connecting terminal (24.576MHz)	
3	SELI1	I+	Built-in selector input 1	(AXD)
4	SELI0	I+	Built-in selector input 0	(GND)
5	SELOA	O+	Built-in selector output A	(ISEL)
6	SELOB	O+	Built-in selector output B	(RSEL)
7	TESTMS	I+	Test terminal (unconnected)	
8	TESTXEN	I+	Test terminal (unconnected)	
9	IPORT0	I+	General purpose input terminal	(CXDTA)
10	IPORT1	I+	General purpose input terminal	(CXDTB)
11	IPORT2	I+	General purpose input terminal	(CXDTE)
12	IPORT3	I+	General purpose input terminal	(MUTE)
13	IPORT4	I+	General purpose input terminal	
14	DDIN0	Is	DIR: Digital audio interface data input terminal 0	(ISEL)
15	DDIN1	Is	DIR: Digital audio interface data input terminal 1/General purpose input terminal	(Pull down)
16	DDIN2	Is	DIR: Digital audio interface data input terminal 2/General purpose input terminal	(Pull up)
17	DDIN3	Is	DIR: Digital audio interface data input terminal 3/General purpose input terminal	(Pull down)
18	VSS		Ground terminal	
19	CPO	A	PLL filter connecting terminal	
20	AVDD		+3.3V power terminal (for DIR)	
21	DIRPCO	A	DIR: PLL filter connecting terminal	
22	DIRPRO	A	DIR: PLL filter connecting terminal	
23	AVSS		Ground terminal (for DIR)	
24	TESTBRK	I+	Test terminal (unconnected)	
25	TESTR1	I+	PLL initialization signal input terminal for DSP	(/ICD)
26	TESTR2	I+	Test terminal (unconnected)	
27	VDD1		+3.3V power terminal (for terminal section)	
28	SDWCKI0	I+	Word clock input terminal for SDIA, SDOA, SDIB, SDOB interface	(Unconnected)
29	SDBCKI0	I+	Bit clock input terminal for SDIA, SDOA, SDIB, SDOB interface	(Unconnected)
30	/SDBCK0	O	DIRBCK or SDBCKI0 invert clock output terminal	(Unconnected)
31	IPORT8	I+	IPINT general purpose input terminal	(Pull down)
32	IPORT9	I+	IPINT general purpose input terminal	(NONPCM)
33	IPORT10	I+	IPINT general purpose input terminal	(NONPCM)
34	IPORT11	I+	IPINT general purpose input terminal	(MUTE)
35	SDIA	I	AC-3/DTS bit stream (or PCM) data input terminal to Main DSP	
36	SDOA2	O	PCM output terminal from Main DSP (C/LFE output)	(Unconnected)
37	SDOA1	O	PCM output terminal from Main DSP (LS/RS output)	(Unconnected)
38	SDOA0	O	PCM output terminal from Main DSP (L/R output)	
39	SDIB3	I+	PCM input terminal 3 to Sub DSP	(Unconnected)
40	SDIB2	I+	PCM input terminal 2 to Sub DSP	(Unconnected)
41	SDIB1	I+	PCM input terminal 1 to Sub DSP	(Unconnected)
42	SDIB0	I+	PCM input terminal 0 to Sub DSP	(Unconnected)
43	VSS		Ground terminal	
44	VDD2		+2.5V power terminal (for internal circuit)	
45	IPORT12	I+	IPINT general purpose input terminal	(DBL)
46	IPORT13	I+	IPINT general purpose input terminal	(DBL)
47	IPORT14	I+	IPINT general purpose input terminal	(DIRINT)
48	DIRSDO	O	AC-3/DTS bit stream (or PCM) data output terminal from DIR	(Unconnected)
49	DIRWCK	O	DIR: Serial data word clock (fs) output terminal	(WCK)
50	DIRBCK	O	DIR: Serial data bit clock (64fs) output terminal	(BCK)
51	DIRMCK	O	DIR: Serial data master clock (256fs or 128fs) output terminal	(MCK)
52	ERR/BS	O	DIR: Data error detect output/block start output terminal	(Unconnected)
53	SYNC/U	O	DIR: Serial data synchronouse timing output/user data output terminal	(Unconnected)
54	FS128/C	O	DIR: Serial data master clock 128fs output/channel status output terminal	(Unconnected)
55	DBL/V	O	DIR: Double rate clock output/validity flag output terminal	(DBL)

IC501 : YSS928 (DSP P.C.B.)

AC3D3

No.	Name	I/O	Function	
56	SDWCKI1	I+	Word clock input terminal for SDIB, SDOB interface	(Unconnected)
57	SDBCKI1	I+	Bit clock input terminal for SDIB, SDOB interface	(Unconnected)
58	VSS		Ground terminal	
59	SDOB3	O	PCM output terminal from Sub DSP	
60	SDOB2	O	PCM output terminal from Sub DSP	
61	SDOB1	O	PCM output terminal from Sub DSP	
62	SDOB0	O	PCM output terminal from Sub DSP	
63	VDD1		+3.3V power terminal (for terminal section)	
64	ZEROBF3R	O+	SDOB3 Rch zero flag output terminal	(ZF3R)
65	ZEROBF3L	O+	SDOB3 Lch zero flag output terminal	(ZF3L)
66	ZEROBF2R	O+	SDOB2 Rch zero flag output terminal	(ZF2R)
67	ZEROBF2L	O+	SDOB2 Lch zero flag output terminal	(ZF2L)
68	OPORT0	O	General purpose output terminal	(DASEL)
69	OPORT1	O	General purpose output terminal	(/RINH1)
70	OPORT2	O	General purpose output terminal	(/RINH2)
71	OPORT3	O	General purpose output terminal	(/ICCDC)
72	OPORT4	O	General purpose output terminal	(DFS)
73	OPORT5	O	General purpose output terminal	(Unconnected)
74	OPORT6	O	General purpose output terminal	(Unconnected)
75	OPORT7	O	General purpose output terminal	(Unconnected)
76	VSS		Ground terminal	
77	VDD2		+2.5V power terminal (for internal circuit)	
78	RAMD0	I+/O	Sub DSP: External memory data terminal 0	
79	RAMD1	I+/O	Sub DSP: External memory data terminal 1	
80	RAMD2	I+/O	Sub DSP: External memory data terminal 2	
81	RAMD3	I+/O	Sub DSP: External memory data terminal 3	
82	ZEROBF1R	O+	SDOB1 Rch zero flag output terminal	(ZF1R)
83	ZEROBF1L	O+	SDOB1 Lch zero flag output terminal	(ZF1L)
84	ZEROBF0R	O+	SDOB0 Rch zero flag output terminal	(ZF0R)
85	ZEROBF0L	O+	SDOB0 Lch zero flag output terminal	(ZF0L)
86	RAMD4	I+/O	Sub DSP: External memory data terminal 4	
87	RAMD5	I+/O	Sub DSP: External memory data terminal 5	
88	RAMD6	I+/O	Sub DSP: External memory data terminal 6	
89	RAMD7	I+/O	Sub DSP: External memory data terminal 7	
90	VSS		Ground terminal	
91	VDD1		+3.3V power terminal (for terminal section)	
92	RAMD8	I+/O	Sub DSP: External memory data terminal 8	
93	RAMD9	I+/O	Sub DSP: External memory data terminal 9	
94	RAMD10	I+/O	Sub DSP: External memory data terminal 10	
95	RAMD11	I+/O	Sub DSP: External memory data terminal 11	
96	RAMD12	I+/O	Sub DSP: External memory data terminal 12	
97	RAMD13	I+/O	Sub DSP: External memory data terminal 13	
98	RAMD14	I+/O	Sub DSP: External memory data terminal 14	
99	RAMD15	I+/O	Sub DSP: External memory data terminal 15	
100	CASN	O	Sub DSP: Column address strobe output terminal for external DRAM	
101	RAMWEN	O	Sub DSP: Write enable terminal for external memory	
102	RAMOEN	O	Sub DSP: Output enable terminal for external memory	
103	RASN	O	Sub DSP: Low address strobe output terminal for external DRAM	
104	VSS		Ground terminal	
105	VDD1		+3.3V power terminal (for terminal section)	
106	RAMA8	O	Sub DSP: External memory address terminal 8	
107	RAMA7	O	Sub DSP: External memory address terminal 7	
108	RAMA0	O	Sub DSP: External memory address terminal 0	
109	RAMA6	O	Sub DSP: External memory address terminal 6	
110	RAMA1	O	Sub DSP: External memory address terminal 1	

IC501 : YSS928 (DSP P.C.B.)

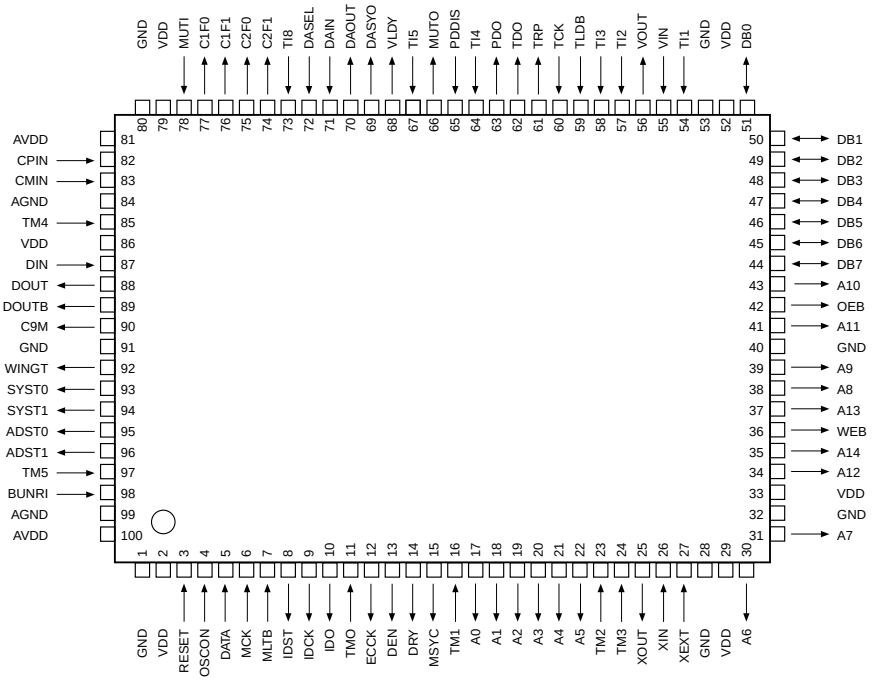
AC3D3

No.	Name	I/O	Function	
111	RAMA5	O	Sub DSP: External memory address terminal 5	
112	RAMA2	O	Sub DSP: External memory address terminal 2	
113	SELI13	I+	Built-in selector input 13	(AC3RF)
114	SELI12	I+	Built-in selector input 12	(CXE)
115	SELI11	I+	Built-in selector input 11	(Unconnected)
116	SELI10	I+	Built-in selector input 10	(Unconnected)
117	SELI9	I+	Built-in selector input 9	(CXB)
118	RAMA4	O	Sub DSP: External memory address terminal 4	
119	RAMA3	O	Sub DSP: External memory address terminal 3	
120	RAMA9	O	Sub DSP: External memory address terminal 9	(Unconnected)
121	RAMA10	O	Sub DSP: External memory address terminal 10	(Unconnected)
122	RAMA11	O	Sub DSP: External memory address terminal 11	(Unconnected)
123	VSS		Ground terminal	
124	VDD2		+2.5V power terminal (for internal circuit)	
125	SELI8	I+	Built-in selector input 8	(CXA)
126	SELI7	I+	Built-in selector input 7	(Unconnected)
127	SELI6	I+	Built-in selector input 6	(OPTF)
128	SELI5	I+	Built-in selector input 5	(OPTE)
129	RAMA12	O	Sub DSP: External memory address terminal 12	(Unconnected)
130	RAMA13	O	Sub DSP: External memory address terminal 13	(Unconnected)
131	RAMA14	O	Sub DSP: External memory address terminal 14	(Unconnected)
132	RAMA15	O	Sub DSP: External memory address terminal 15	(Unconnected)
133	RAMA16	O	Sub DSP: External memory address terminal 16	(Unconnected)
134	RAMA17	O	Sub DSP: External memory address terminal 17	(Unconnected)
135	OVFB/END	O	Sub DSP: Overflow/program end detect terminal	(Unconnected)
136	ZEROFLG	O	Main DSP: Zero flag output terminal	(Unconnected)
137	VSS		Ground terminal	
138	NONPCM	O	Main DSP: Non-PCM data detect terminal	
139	DTSDATA	O	Main DSP: DTS data detect terminal	(Unconnected)
140	AC3DATA	O	Main DSP: AC3 data detect terminal	(Unconnected)
141	MUTE	O	Main DSP: Auto mute detect terminal	
142	KARAOKE	O	Main DSP: AC3 KARAOKE data detect terminal	(Unconnected)
143	VDD1		+3.3V power terminal (for terminal section)	
144	SURENC	O	Main DSP: AC-3 2/0 mode Dolby surround encode input detect terminal	(Unconnected)
145	CRC	O	Main DSP: AC3 CRC error detect terminal	(Unconnected)
146	/LOCK	O	DIR: PLL lock detect terminal	(Unconnected)
147	DIRINT	O	DIR: Interrupt output terminal	
148	/CS	Is	Microprocessor interface chip select input terminal	(CSY)
149	SO	Ot	Microprocessor interface data output terminal	
150	SI	Is	Microprocessor interface data input terminal	(SDM)
151	SCK	Is	Microprocessor interface clock input terminal	
152	/IC	Is	Initial clear input terminal	(/ICD)
153	IPINT	O+	Interrupt output terminal by IPORT 8-14	
154	SELI4	I+	Built-in selector input 4	(OPTD)
155	VSS		Ground terminal	
156	SELI3	I+	Built-in selector input 3	(OPTC)
157	SELI2	I+	Built-in selector input 2	(OPTB)
158	TESTXI	I	Test terminal (should be always connected to VSS)	
159	TESTXO	O	Test terminal	(Unconnected)
160	VDD2		+2.5V power terminal (for internal circuit)	

Is: Schmidt trigger input terminal
I+: Input terminal with pull-up resistor
O: digital output terminal
Ot: Tri-state digital output terminal
A: Analog terminal

IC503 : PM4007A (DSP P.C.B.)

AC-3 RF Demodulator


GND VDD MUTI C1F0 C1F1 C2F0 C2F1 TI8 DASEL DAIN DAOUT DASYO VLDY TI5 MUTO PDDIS TI4 PDO TDO TRP TCK TLDB TI3 TI2 VOUT VIN TI1 GND VDD DB0
80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51
AVDD 81
CPIN 82
CMIN 83
AGND 84
TM4 85
VDD 86
DIN 87
DOUT 88
DOUTB 89
C9M 90
GND 91
WINGT 92
SYST0 93
SYST1 94
ADST0 95
ADST1 96
TM5 97
BUNRI 98
AGND 99
AVDD 100
50 DB1
49 DB2
48 DB3
47 DB4
46 DB5
45 DB6
44 DB7
43 A10
42 OEB
41 A11
40 GND
39 A9
38 A8
37 A13
36 WEB
35 A14
34 A12
33 VDD
32 GND
31 A7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
GND VDD RESET OSCON DATA MCK MLTB IDST IDCK IDO TMO ECCK DEN DRY MSYC TM1 A0 A1 A2 A3 A4 A5 TM2 TM3 XOUT XIN XEXT GND VDD A6

No.	Name	I/O	Function
1	GND		Ground (0V)
2	VDD		+5V power supply
3	RESET	I	System resetting terminal (reset at “L”)
4	OSCON	I	Oscillation control terminal. Oscillation ON at “H”, set to “H” normally and to “L” when in standby state
5	DATA	I	IC test terminal, normally connected to ground (or unconnected)
6	MCK	I	IC test terminal, normally connected to ground (or unconnected)
7	MLTB	I	IC test terminal, normally connected to ground (or unconnected)
8	IDST	O	Output terminal for IC test
9	IDCK	O	Output terminal for IC test
10	IDO	O	Output terminal for IC test
11	TM0	I	IC test terminal, normally connected to ground (or unconnected)
12	ECCK	O	Output terminal for IC test
13	DEN	O	Output terminal for IC test
14	DRY	O	Output terminal for IC test
15	MSYC	O	Output terminal for IC test
16	TM1	I	IC test terminal, normally connected to ground (or unconnected)
17	A0	O	External RAM address output. Address 0 (LSB)
18	A1	O	External RAM address output. Address 1
19	A2	O	External RAM address output. Address 2
20	A3	O	External RAM address output. Address 3
21	A4	O	External RAM address output. Address 4
22	A5	O	External RAM address output. Address 5
23	TM2	I	IC test terminal, normally connected to ground (or unconnected)
24	TM3	I	IC test terminal, normally connected to ground (or unconnected)
25	XOUT	O	Output terminal for IC test
26	XIN	I	IC test terminal, normally connected to ground (or unconnected)
27	XEXT	I	IC test terminal, normally connected to ground (or unconnected)
28	GND		Ground terminal (0V)
29	VDD		+5V power supply

IC503 : PM4007A (DSP P.C.B.)

AC-3 RF Demodulator

No.	Name	I/O	Function
30	A6	O	External RAM address output. Address 6
31	A7	O	External RAM address output. Address 7
32	GND		Ground terminal (0V)
33	VDD		+5V power supply
34	A12	O	External RAM address output. Address 12
35	A14	O	External RAM address output. Address 14 (MSB)
36	WEB	O	External RAM write enable signal, active at “L”
37	A13	O	External RAM address output. Address 13
38	A8	O	External RAM address output. Address 8
39	A9	O	External RAM address output. Address 9
40	GND		Ground terminal (0V)
41	A11	O	External RAM address output. Address 11
42	OEB	O	External RAM output enable signal, active at “L”
43	A10	O	External RAM address output. Address 10
44	DB7	I/O	External RAM data terminal. Data bus 7
45	DB6	I/O	External RAM data terminal. Data bus 6
46	DB5	I/O	External RAM data terminal. Data bus 5
47	DB4	I/O	External RAM data terminal. Data bus 4
48	DB3	I/O	External RAM data terminal. Data bus 3
49	DB2	I/O	External RAM data terminal. Data bus 2
50	DB1	I/O	External RAM data terminal. Data bus 1
51	DB0	I/O	External RAM data terminal. Data bus 0
52	VDD		+5V power supply
53	GND		Ground terminal (0V)
54	TI1	I	IC test terminal, normally connected to VDD
55	VIN	I	VCXO input
56	VOUT	O	VCXO output
57	TI2	I	IC test terminal, normally connected to GND (or unconnected)
58	TI3	I	IC test terminal, normally connected to GND (or unconnected)
59	TLDB	I	IC test terminal, normally connected to GND (or unconnected)
60	TCK	I	IC test terminal, normally connected to GND (or unconnected)
61	TRP	O	Output terminal for IC test
62	TDO	O	Output terminal for IC test
63	PDO	O	Output terminal for phase comparator (tri-state)
64	TI4	I	IC test terminal, normally connected to GND (or unconnected)
65	PDDIS	I	Input terminal to control PDO output. Output ON at “L”
66	MUTO	O	Muting output. Muting available at “H”. Setting becomes “H” when “MUTI=H” or AC-3 is asynchronous.
67	TI5	I	IC test terminal, normally connected to GND (or unconnected)
68	VLDY	O	Output terminal for IC test
69	DASYO	O	Output terminal for IC test
70	DAOUT	O	Digital out output (serial data stream output)
71	DAIN	I	Digital external input, through to DAOUT when DASEL is “H”.
72	DASEL	I	Digital out select
73	TI8	I	IC test terminal, normally connected to GND (or unconnected)
74	C2F1	O	Terminal used to indicate error condition after C2 correction, whether completely corrected or not.
75	C2F0	O	Terminal used to indicate error condition after C2 correction, number of errors at C2.
76	C1F1	O	Terminal used to indicate error condition after C1 correction, whether any error exists at C1 or not.
77	C1F0	O	Terminal used to indicate error condition after C1 correction, number of errors at C1.
78	MUTI	I	Muting input. Muting available at “H”
79	VDD		+5V power supply
80	GND		Ground terminal (0V)

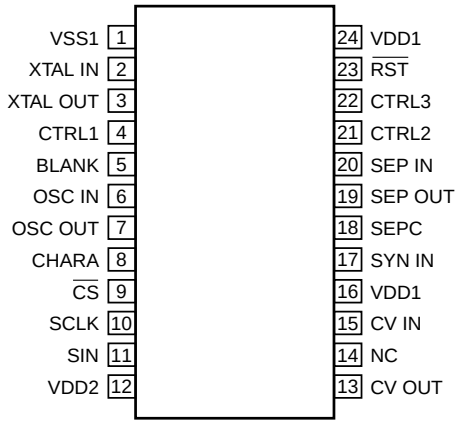
IC503 : PM4007A (DSP P.C.B.)

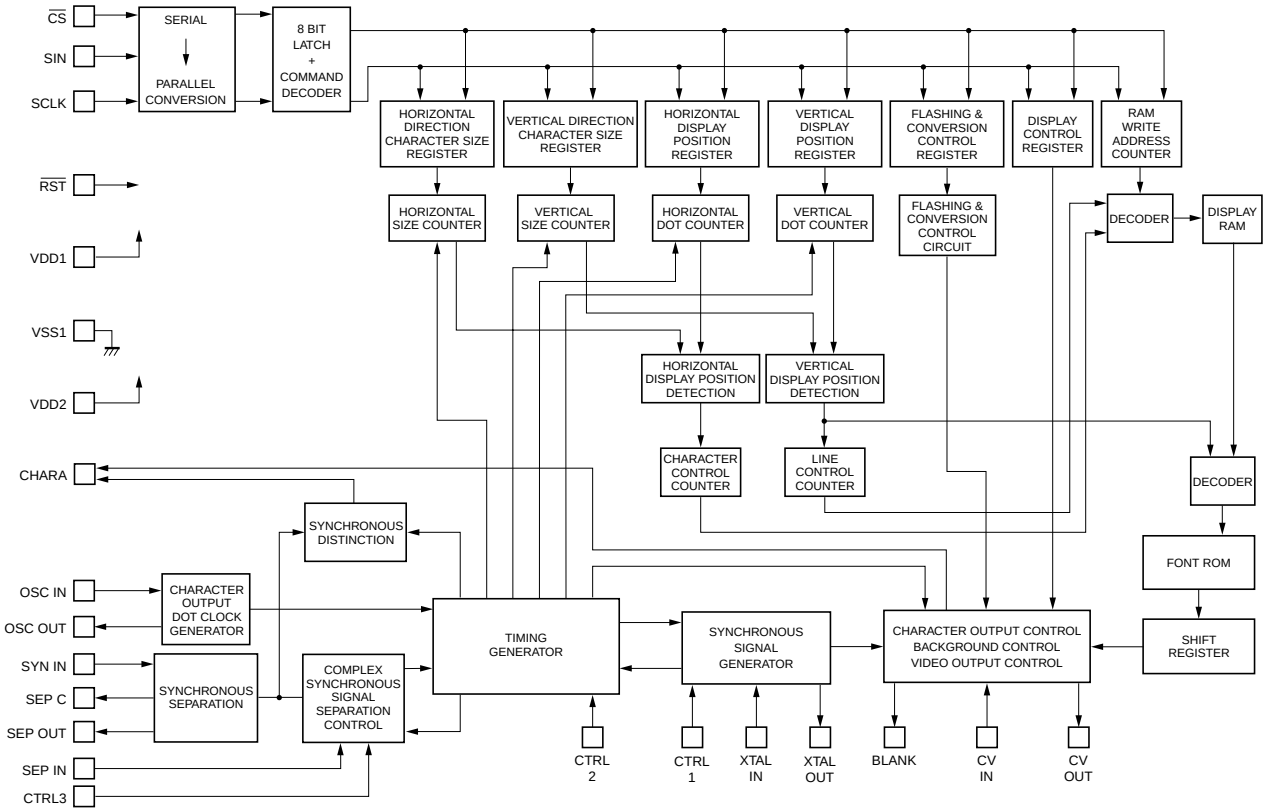
AC-3 RF Demodulator

No.	Name	I/O	Function
81	AVDD		+5V power supply for analog comparator
82	CPIN	I	Analog comparator input, positive side (Non-reverse side: QPSK input)
83	CMIN	I	Analog comparator input, negative side (reverse side)
84	AGND		Ground terminal for analog comparator (0V)
85	TM4	I	IC test terminal, normally connected to GND (or unconnected)
86	VDD		+5V power supply
87	DIN	I	IC test terminal, normally connected to GND (or unconnected)
88	DOUT	O	Analog comparator result output
89	DOUTB	O	Analog comparator result reverse output
90	C9M	O	9.216MHz output, output divided into 2 at VIN (No.55 pin)
91	GND		Ground terminal (0V)
92	WINGT	O	Output for IC test
93	SYST0	O	Output for IC test
94	SYST1	O	Output for IC test
95	ADST0	O	Output for IC test
96	ADST1	O	Output for IC test
97	TM5	I	IC test terminal, normally connected to GND (or unconnected)
98	BUNRI	I	IC test terminal, normally connected to GND (or unconnected)
99	AGND		Ground terminal (0V) for 46.08MHz oscillator
100	AVDD		+5V power supply for 46.08MHz oscillator

IC610 : LC74781-9798 (VIDEO P.C.B.)

Superimpose





IC610 : LC74781-9798 (VIDEO P.C.B.)

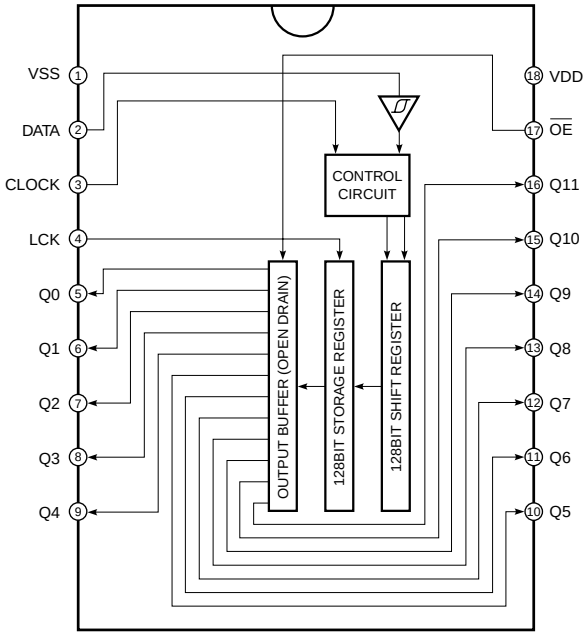
Superimpose

Pin No.	Symbol	Terminal name	Function
1	VSS1	Ground terminal	Connection to GND (Digital system ground terminal)
2	XTAL IN	Crystal oscillation terminal	Terminal to connect the crystal of the crystal oscillator for internal synchronous signal generation and a capacitor or to input an external clock. (2fsc or 4fsc)
3	XTAL OUT		
4	CTRL1	Crystal oscillation input switching terminal	Switching terminal between the mode to input a clock externally and the mode for crystal oscillation. [L] = Crystal oscillation, [H] = External clock input
5	BLANK	Blank output terminal	Terminal to output the blank signal (character and bordering OR signal) (MOD0 : complex synchronous signal output at [H]). When resetting (RST terminal = [L]), a crystal oscillation clock is output (but not when resetting by the command).
6	OSC IN	LC oscillation terminal	Terminal to connect the coil of the oscillator for character output dot clock generation and a capacitor.
7	OSC OUT		
8	CHARA	Character output terminal	Terminal to output a character signal (MOD0 : It becomes an output terminal to judge the external synchronous signal at [H] and outputs the result after judging existence of the external synchronous signal. When a synchronous signal exists, [H] is output.) When resetting (RST terminal = [L]), a dot clock (LC oscillation) is output (but it is not output when reset by the command.)
9	/CS	Enable input terminal	Serial data input enable input terminal. The serial data input becomes enable at [L]. A pull-up resistor is built in (hysteresis input).
10	SCLK	Clock input terminal	Input terminal of clock for serial data input. A pull-up resistor is built in (hysteresis input).
11	SIN	Data input terminal	Serial data input terminal. A pull-up resistor is built in (hysteresis input).
12	VDD2	Power supply terminal	Power supply terminal for complex image signal level adjustment (Power supply for analog system)
13	CV OUT	Video signal output terminal	Output terminal for complex image signal.
14	NC		Connected to GND or unconnected.
15	CV IN	Video signal input terminal	Input terminal for complex image signal.
16	VDD1	Power supply terminal	Power supply terminal (+5V : power supply for digital system)
17	SYN IN	Synchronous separation circuit input terminal	Video signal input terminal of the built-in synchronous separation circuit (When the built-in synchronous separation circuit is not used, it becomes a horizontal synchronous signal input or a complex synchronous signal input.)
18	SEP C	Synchronous separation circuit bias voltage terminal	Terminal to monitor built-in synchronous separation circuit bias voltage.
19	SEP OUT	Complex synchronous signal output terminal	Terminal to output a complex synchronous signal of built-in synchronous separation circuit ([H] when internally synchronized at MOD1 : [H], [L] output when externally synchronized) (When the built-in synchronous separation circuit is not used, SYNIN input signal is output.)
20	SEP IN	Vertical synchronous signal input terminal	Terminal to input a vertical synchronous signal by integrating the output signal of SEPOUT terminal. Connect the integration circuit between SEPOUT terminals. Fix it to VDD1 when not used.
21	CTRL2	NTSC/PAL-M switching input terminal	Pin setting has a priority over switching of NTSC/PAL/PAL-M/PAL-N method. The NTSC method is selected after [L]= reset. NTSC/PAL/PAL-M/PAL-N method setting by a command is effective. [H] = PAL-M method.
22	CTRL3	SEPIN input control terminal	Terminal to control whether or not to input VSYNC signal into SEPIN input terminal. [L] = VSYNC inputted, [H] = VSYNC not inputted.
23	/RST	Reset input terminal	System reset input terminal. A pull-up resistor is built in (hysteresis input).
24	VDD1	Power supply terminal (+5V)	Power supply terminal (+5V : power supply for digital system)

● **Extension Port**

IC611 : BU2092 (VIDEO P.C.B.)

12-bit Serial In/Parallel Out Driver



No.	PORT	Name	Function	Power On	Power Off	Backup
1	VSS	VSS	Ground	---	---	---
2	DATA	DATA	Serial Data Input	I	I	I
3	CLOCK	CLOCK	Shift Clock of Data (Rise Edge Trigger)	I	I	I
4	LCK	LCK	Latch Clock of Data (Rise Edge Trigger)	I	I	I
5	Q0	VIA	VIDEO INPUT A	O	OL	OL
6	Q1	VIB	VIDEO INPUT B	O	OL	OL
7	Q2	VIC	VIDEO INPUT C	O	OL	OL
8	Q3	VRA	VIDEO REC OUT A	O	OL	OL
9	Q4	VRB	VIDEO REC OUT B	O	OL	OL
10	Q5	VRC	VIDEO REC OUT C	O	OL	OL
11	Q6	/VR1	VCR 1 REC OUT INHIBIT	O	OL	OL
12	Q7	/VR2	VCR 2 REC OUT INHIBIT	O	OL	OL
13	Q8	CMP0	VIDEO CONPONENT 0	O	OL	OL
14	Q9	CMP1	VIDEO CONPONENT 1	O	OL	OL
15	Q10	R/Z	REC/ZONE 2 (1/0)	O	OL	OL
16	Q11		Unconnected	O	OL	OL
17	/OE	/OE	Output Enable (Output "H" Level is OFF)	I	I	I
18	VDD	VDD	+5V	---	---	---

■ DISPLAY DATA

V901 : 32-BT-07G (V6291200)

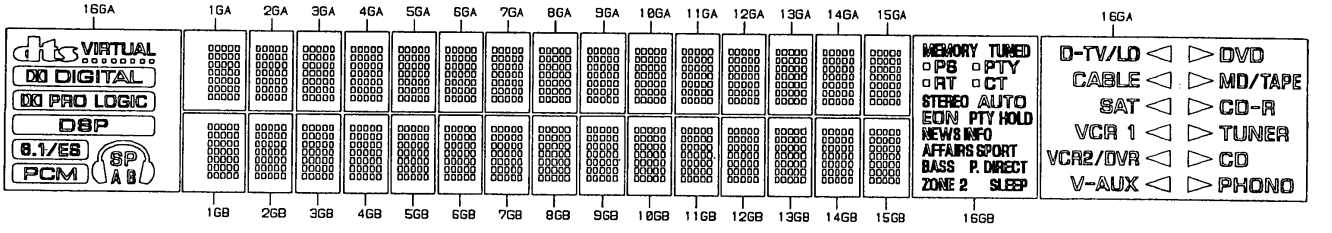
● PIN CONNECTION

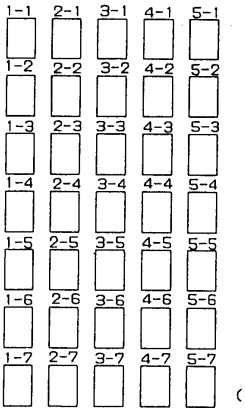
PIN NO.	138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120 119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70
CONNECTION	F1 F1 F1 NP NP P35A P34A P33A P32A INC P31A FdP P30A FdN P29A P28A P27A P26A P25A P24A P23A P22A P21A P20A P19A P18A P17A P16A P15A P14A P13A P12A P11A P10A P9A P8A P7A P6A P5A P4A P3A P2A P1A 16GA 15GA 14GA 13GA 12GA 11GA 10GA 9GA 8GA 7GA 6GA 5GA 4GA 3GA 2GA 1GA NP NP F2 F2 F2

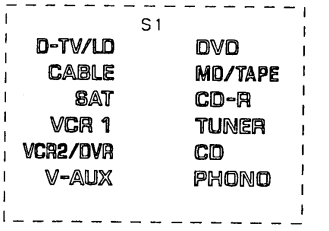
PIN NO.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69
CONNECTION	F1 F1 F1 NP NP 1GB 2GB 3GB 4GB INC 5GB FdP 6GB FdN 7GB 8GB 9GB 10GB 11GB 12GB 13GB 14GB 15GB P15B P14B P13B P12B P11B P10B P9B P8B P7B P6B P5B P4B P3B P2B P1B 1GA 2GA 3GA 4GA 5GA 6GA 7GA 8GA 9GA 10GA 11GA 12GA 13GA 14GA 15GA NP NP F2 F2 F2

Note 1) F1, F2 ..... Filament
2) NP ..... No Pin
3) P1A~P35A, P1B~P35B ..... Datum Line
4) 1GA~16GA, 1GB~16GB ..... Grid
5) IC ..... Internal connection
6) Fd terminals are to be supplied through 51kΩ from Ec.

● GRID ASSIGNMENT







● **ANODE CONNECTION**

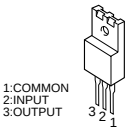
	16GA	15GA~1GA
P1A	dts	1-1
P2A	VIRTUAL	2-1
P3A	DIGITAL	3-1
P4A	PRO LOGIC	4-1
P5A	DSP	5-1
P6A	6.1/ES	1-2
P7A	PCM	2-2
P8A		3-2
P9A	SP	4-2
P10A	A	5-2
P11A	B	1-3
P12A	–	2-3
P13A	–	3-3
P14A	▷ (PHONO)	4-3
P15A	▷ (CD)	5-3
P16A	▷ (TUNER)	1-4
P17A	▷ (CD-R)	2-4
P18A	▷ (MD/TAPE)	3-4
P19A	▷ (DVD)	4-4
P20A	◁ (D-TV/LD)	5-4
P21A	◁ (CABLE)	1-5
P22A	◁ (SAT)	2-5
P23A	◁ (VCR1)	3-5
P24A	◁ (VCR2/DVR)	4-5
P25A	◁ (V-AUX)	5-5
P26A	S1	1-6
P27A	–	2-6
P28A	–	3-6
P29A	–	4-6
P30A	–	5-6
P31A	–	1-7
P32A	–	2-7
P33A	–	3-7
P34A	–	4-7
P35A	–	5-7

	16GB	15GB~1GB
P1B	MEMORY	1-1
P2B	TUNED	2-1
P3B	□ (PS)	3-1
P4B	PS	4-1
P5B	□ (PTY)	5-1
P6B	PTY	1-2
P7B	□ (RT)	2-2
P8B	RT	3-2
P9B	□ (CT)	4-2
P10B	CT	5-2
P11B	STEREO	1-3
P12B	AUTO	2-3
P13B	EON	3-3
P14B	PTY HOLD	4-3
P15B	NEWS	5-3
P16B	INFO	1-4
P17B	AFFAIRS	2-4
P18B	SPORT	3-4
P19B	BASS	4-4
P20B	P. DIRECT	5-4
P21B	ZONE 2	1-5
P22B	SLEEP	2-5
P23B	–	3-5
P24B	–	4-5
P25B	–	5-5
P26B	–	1-6
P27B	–	2-6
P28B	–	3-6
P29B	–	4-6
P30B	–	5-6
P31B	–	1-7
P32B	–	2-7
P33B	–	3-7
P34B	–	4-7
P35B	–	5-7

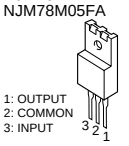
■ PIN CONNECTION DIAGRAM

● ICs

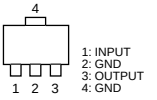
NJM79M05FA
NJM79M12FA



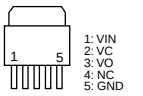
NJM7805FA
NJM7812FA
NJM78M05FA



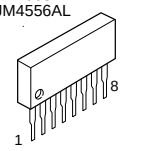
µPC29M33T-E1



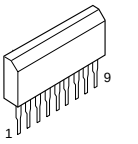
PQ025EZ5MZP



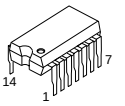
M5220L
NJM2068L-D
NJM4556AL



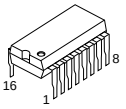
µPC4570HA



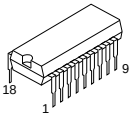
TC74HCU04AP
TC4066BP



TC74HC4051AP
TC74HC4053AP



BU2092



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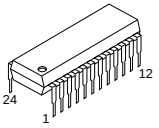
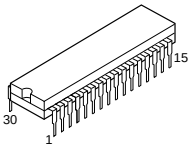
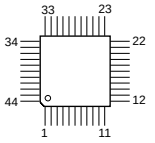


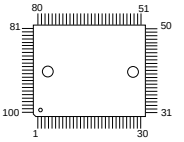
LC78211
LC78212
LC78213



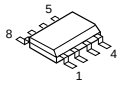
AK4527VQ



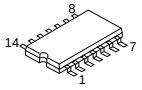
PM4007A



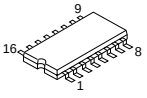
NJM2068MD-T1
NJM2904M-T1
µPC4570G2
TK15420M



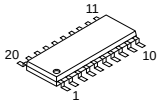
TC74HC00AF
TC74HCU04AF-TP1
TC74VHCT08AF



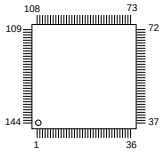
LA7104M
LA7108M-TLM
HIN202ECBN-T
CS3310-KSR



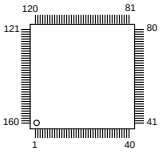
PCM1704U



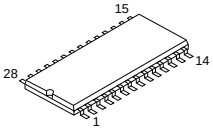
M30802SGP



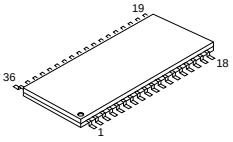
YSS928



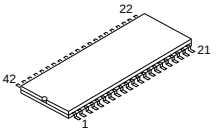
DF1704E
CY62256LL-70SNCT



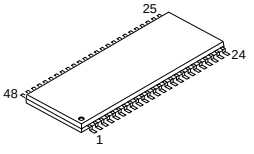
LA7109



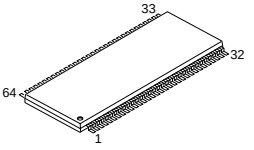
MSM514260C-60JS



MBM29F400BC-70

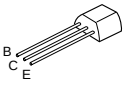


M66004MBFP-200C



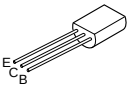
● Transistors

2SC1740S (R, S)
2SD1915F (S, T)
DTA144ES
DTC114ES
DTC123JS
DTC143XS
DTC143ZS
DTC144ES

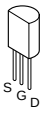


2SA1037K (Q, R, S)
2SC2412K (Q, R, S)
2SC3326 (A, B)
DTA144EKA
DTC144EKA

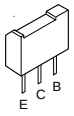
2SA893A (D, E)
2SA970 (GR, BL)
2SA1015 (Y)
2SC535 (A, B, C)
2SC1145 (O, Y)
2SC1815 (Y)
2SC1890A (D, E)
2SC2240 (GR, BL)
2SC2705 (O, Y)
2SC2878 (A, B)



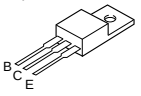
2SK246 (Y)



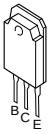
2SA1708 (S, T)
2SC4488 (S, T)



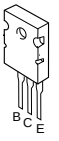
2SA1837
2SB1375
2SB1565 (E, F)
2SC4793
2SD2396 (J, K)



2SC5358 (O, R)
2SC4512 (O, P, Y)



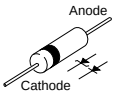
2SC5200 (O, R)



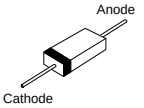
● Diodes

1SS133
1SR139-400
MA185
MTZJ4.7C
MTZJ5.1A
MTZJ5.6B
MTZJ6.2C
MTZJ6.8A
MTZJ6.8B
MTZJ9.1A

MTZJ11.0B
MTZJ12.0A
MTZJ15.0B
MTZJ22.0B
MTZJ24.0A
MTZJ24.0B
MTZJ24.0C
MTZJ27.0A
MTZJ30.0D

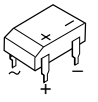


1SS355
RB501V-40

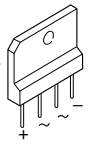


KV1851-TL

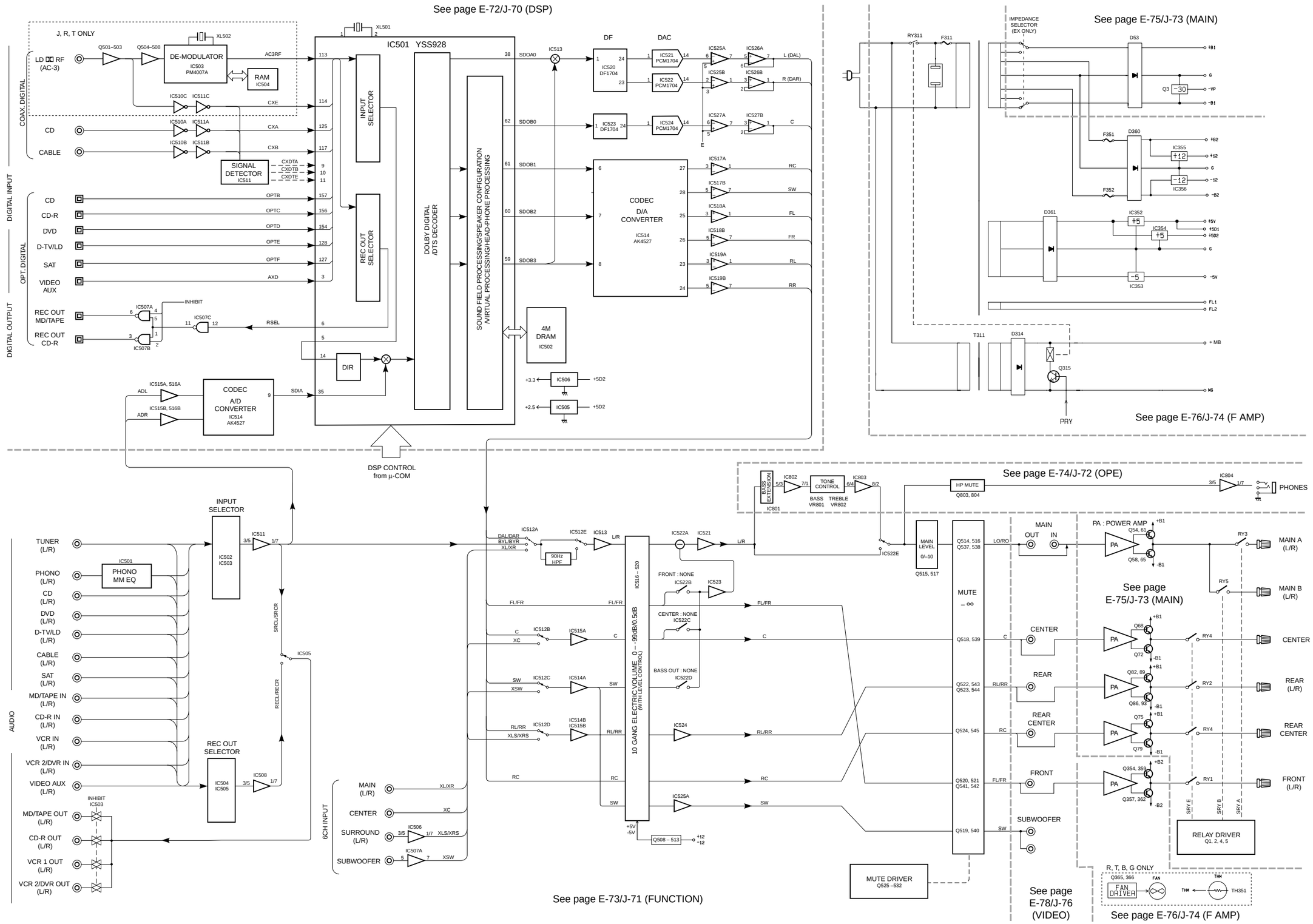
S1NB20



D3SBA20
D15XB20



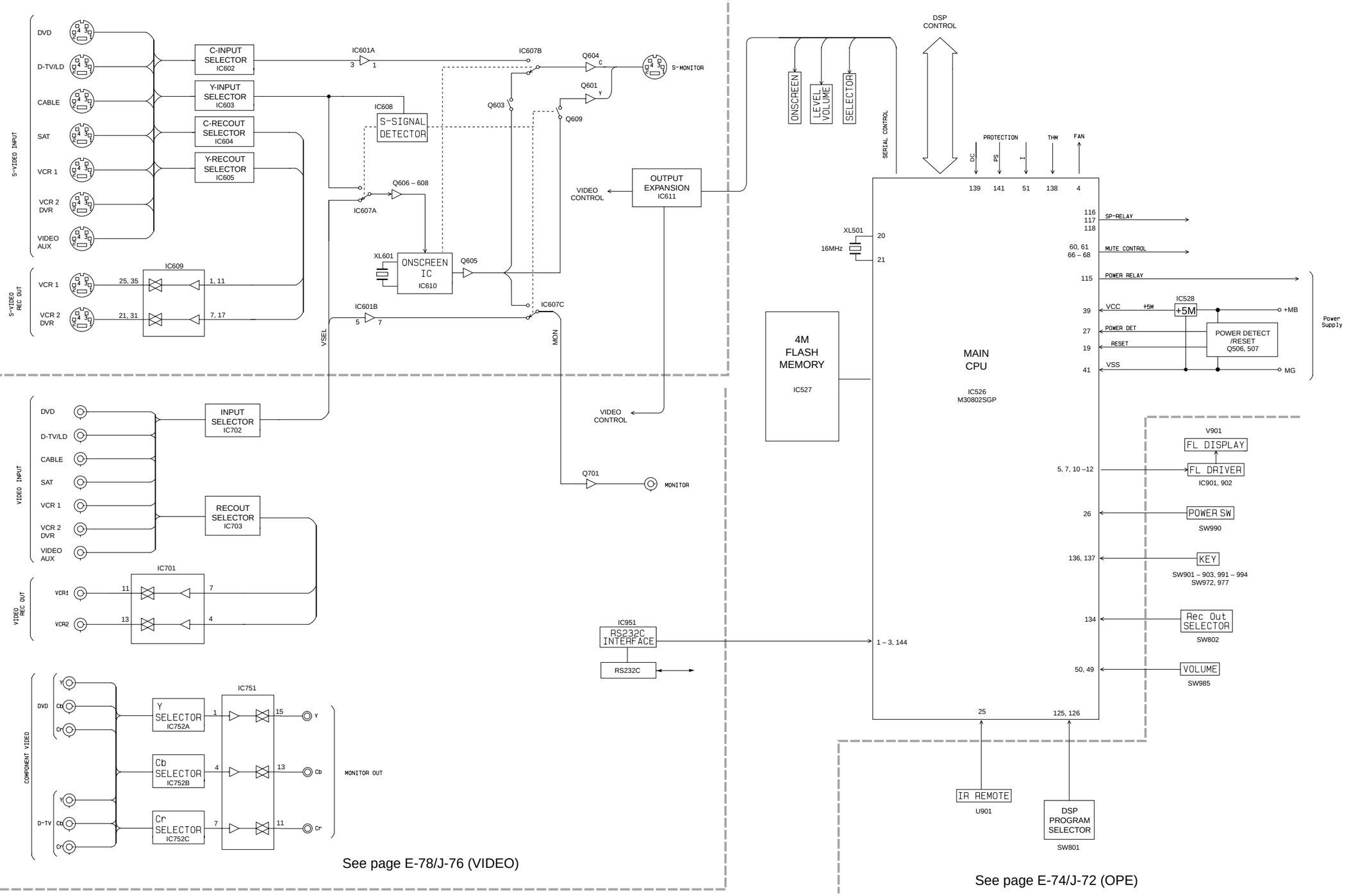
■ BLOCK DIAGRAM



■ BLOCK DIAGRAM

See page E-77/J-75 (VIDEO)

See page E-73/J-71 (FUNCTION)



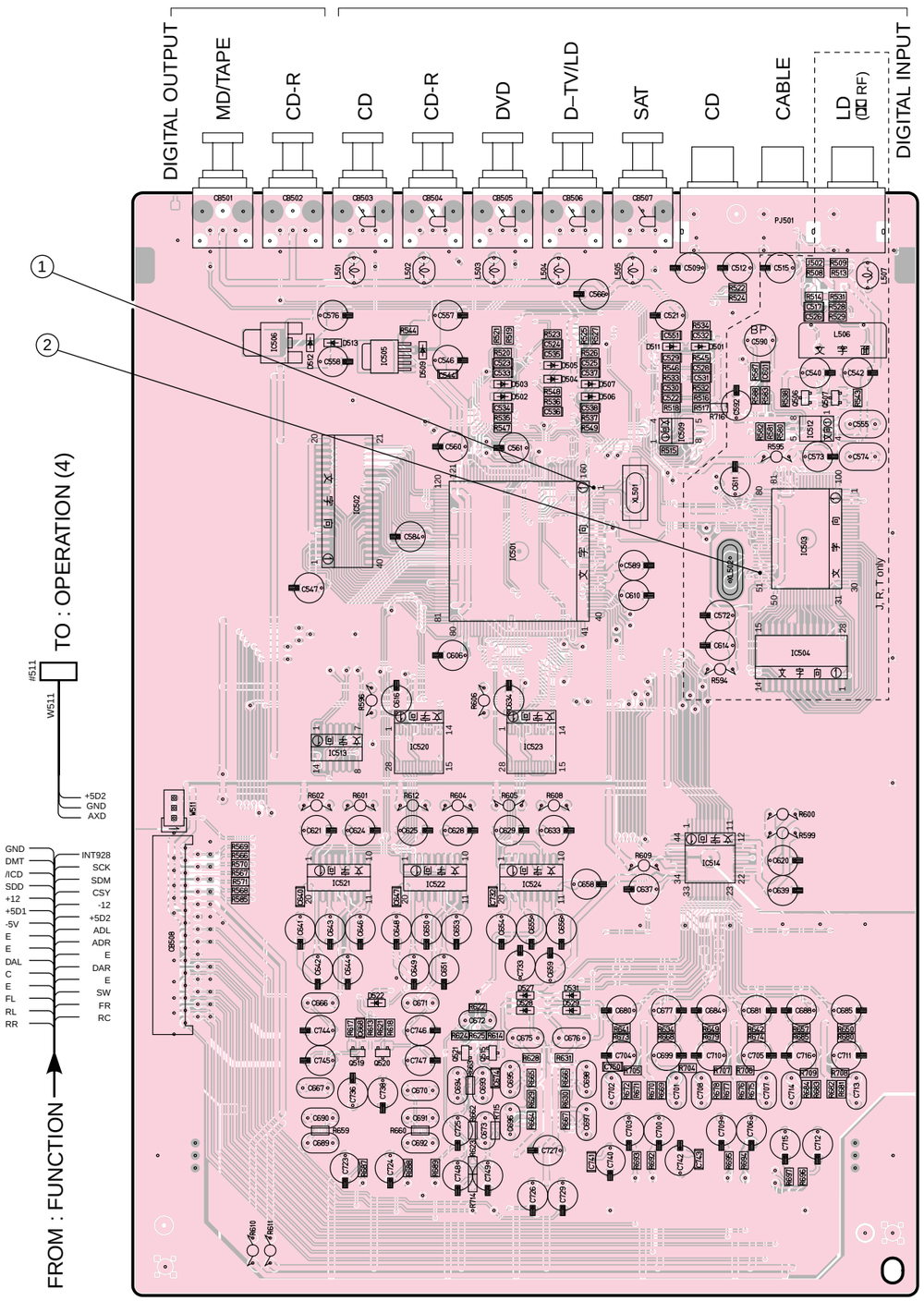
See page E-78/J-76 (VIDEO)

See page E-74/J-72 (OPE)

■ PRINTED CIRCUIT BOARD (Foil side)

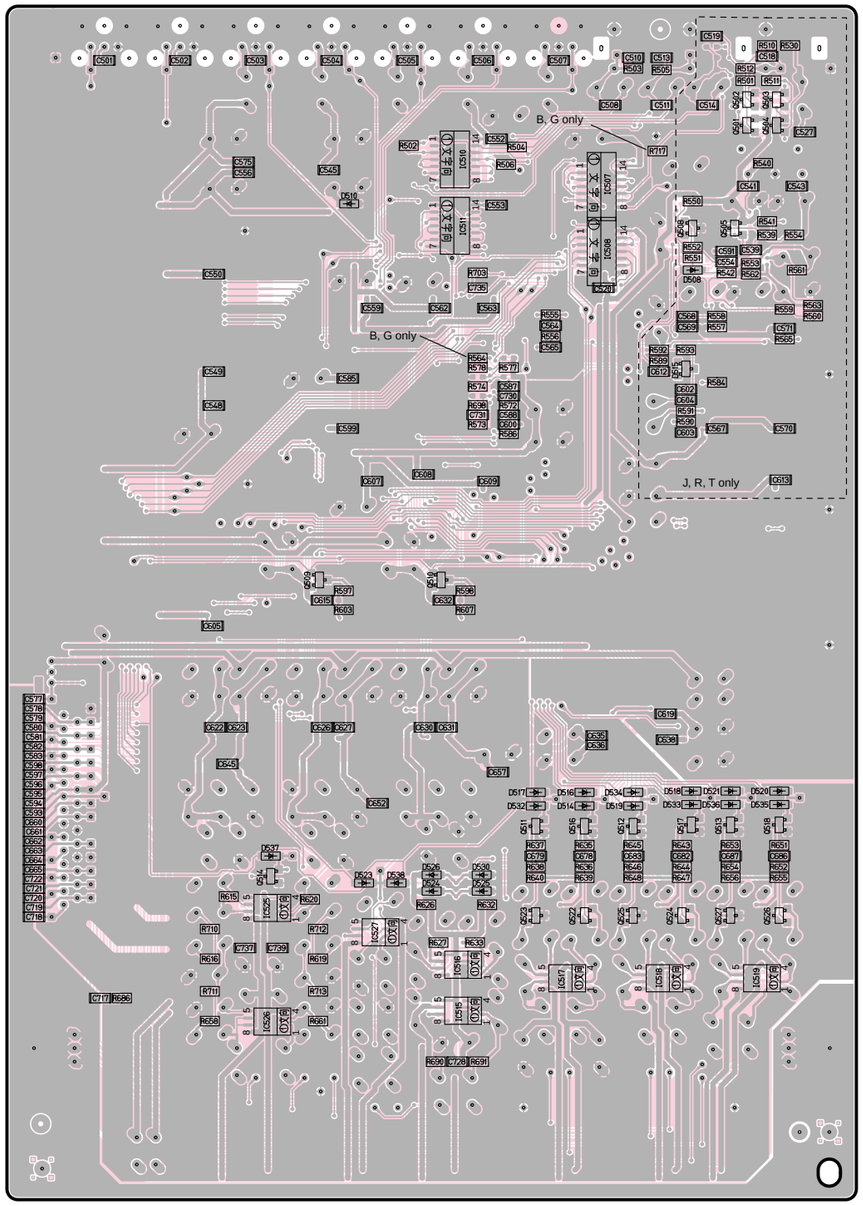
DSP P.C.B.

(Lead Type Device)

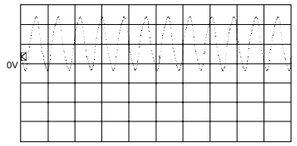


DSP P.C.B.

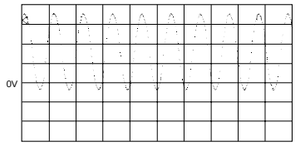
(Surface Mount Device)



Point ① (Pin 1 of IC501)
V : 2V/div, H : 50 nsec/div
DC, 1 : 1 probe



Point ② (Pin 56 of IC503)
V : 2V/div, H : 50 nsec/div
DC, 1 : 1 probe



● **Semiconductor Location**

Ref. No.	Location
D501	C2
D502	C3
D503	C3
D504	C3
D505	C3
D506	C3
D507	C3
D508	F3
D509	B2
D510	E3
D511	C2
D512	B2
D513	B2
D514	F4
D515	F3
D516	F4
D517	F4
D518	F4
D519	F4
D520	G4
D521	F4
D522	B5
D523	E5
D524	E5
D525	F5
D526	E5
D527	C5
D528	C5
D529	C5
D530	F5
D531	C5
D532	F4
D533	F4
D534	F4
D535	G4
D536	F4
D537	E5
D538	E5

Ref. No.	Location
IC501	C3
IC502	B3
IC503	D3
IC504	D4
IC505	B2
IC506	B2
IC507	F2
IC508	F3
IC509	C3
IC510	F2
IC511	F3
IC512	D3
IC513	B4
IC514	C4
IC515	F5
IC516	F5
IC517	F5
IC518	F5
IC519	G5
IC520	B4
IC521	B4
IC522	B4
IC523	C4
IC524	C4
IC525	E5
IC526	E5
IC527	E5

Ref. No.	Location
Q501	F2
Q502	F2
Q503	G2
Q504	G2
Q505	F3
Q506	D3
Q507	D3
Q508	F3
Q509	E4
Q510	E4
Q511	F5
Q512	F5
Q513	F5
Q514	E5
Q515	B5
Q516	F5
Q517	F5
Q518	G5
Q519	B5
Q520	B5
Q521	B5
Q522	F5
Q523	F5
Q524	F5
Q525	F5
Q526	G5
Q527	F5

■ PRINTED CIRCUIT BOARD (Foil side)

● **Semiconductor Location**

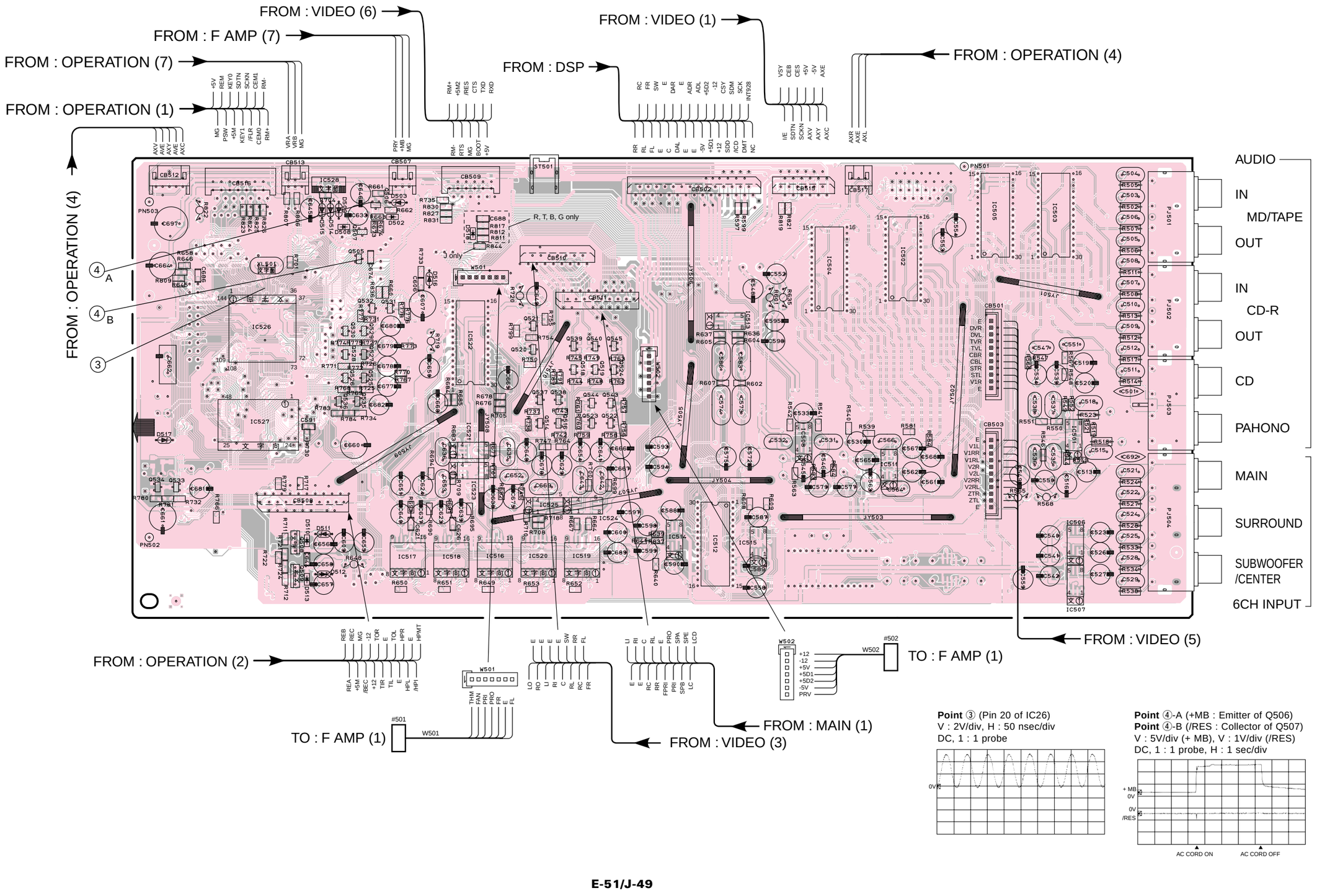
Ref. No.	Location
D502	C3
D503	C2
D508	C3
D509	C2
D510	C4
D511	C4
D512	C4
D513	C4
D514	C2
D515	C2
D516	D3
D517	B4
D518	D3

Ref. No.	Location
IC501	G4
IC502	F3
IC503	G2
IC504	F3
IC505	G2
IC506	G4
IC507	G4
IC508	F4
IC511	F4
IC512	E4
IC513	E3
IC514	E4
IC515	E4
IC516	D4
IC517	D4
IC518	D4
IC519	D4
IC520	D4
IC521	D4
IC522	D3
IC523	D4
IC524	D4
IC525	D4
IC526	C3
IC527	C4
IC528	C2

Ref. No.	Location
Q505	C3
Q506	C2
Q507	C3
Q508	C4
Q509	C4
Q514	D4
Q516	D4
Q518	D3
Q519	D3
Q520	D3
Q521	D3
Q522	E4
Q523	D4
Q524	E3
Q525	C3
Q526	C3
Q527	C3
Q528	C3
Q529	C3
Q530	C3
Q531	C3
Q532	C3
Q533	B4
Q534	B4
Q535	C3
Q536	C3
Q537	D3
Q538	D3
Q539	D3
Q540	D3
Q543	E3
Q544	D3
Q545	E3

FUNCTION P.C.B.

(Lead Type Device)



Point ③ (Pin 20 of IC26)
V : 2V/div, H : 50 nsec/div
DC, 1 : 1 probe

Point ④-A (+MB : Emitter of Q506)
Point ④-B (/RES : Collector of Q507)
V : 5V/div (+ MB), V : 1V/div (/RES)
DC, 1 : 1 probe, H : 1 sec/div

■ PRINTED CIRCUIT BOARD (Foil side)

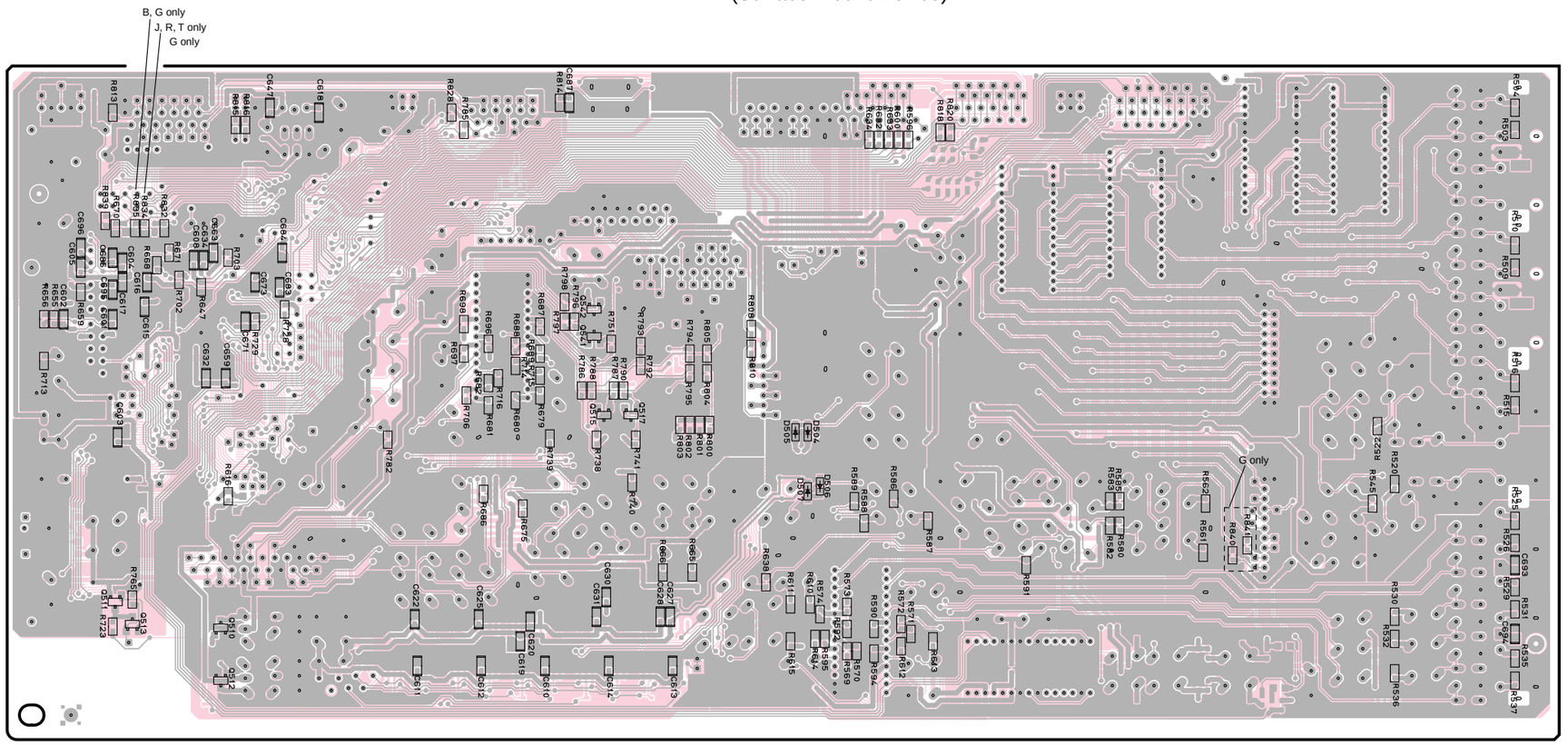
● **Semiconductor Location**

Ref. No.	Location
D504	E3
D505	E3
D506	E4
D507	E4

Ref. No.	Location
Q510	C4
Q511	B4
Q512	C4
Q513	B4
Q515	D3
Q517	D3
Q541	D3
Q542	D3

FUNCTION P.C.B.

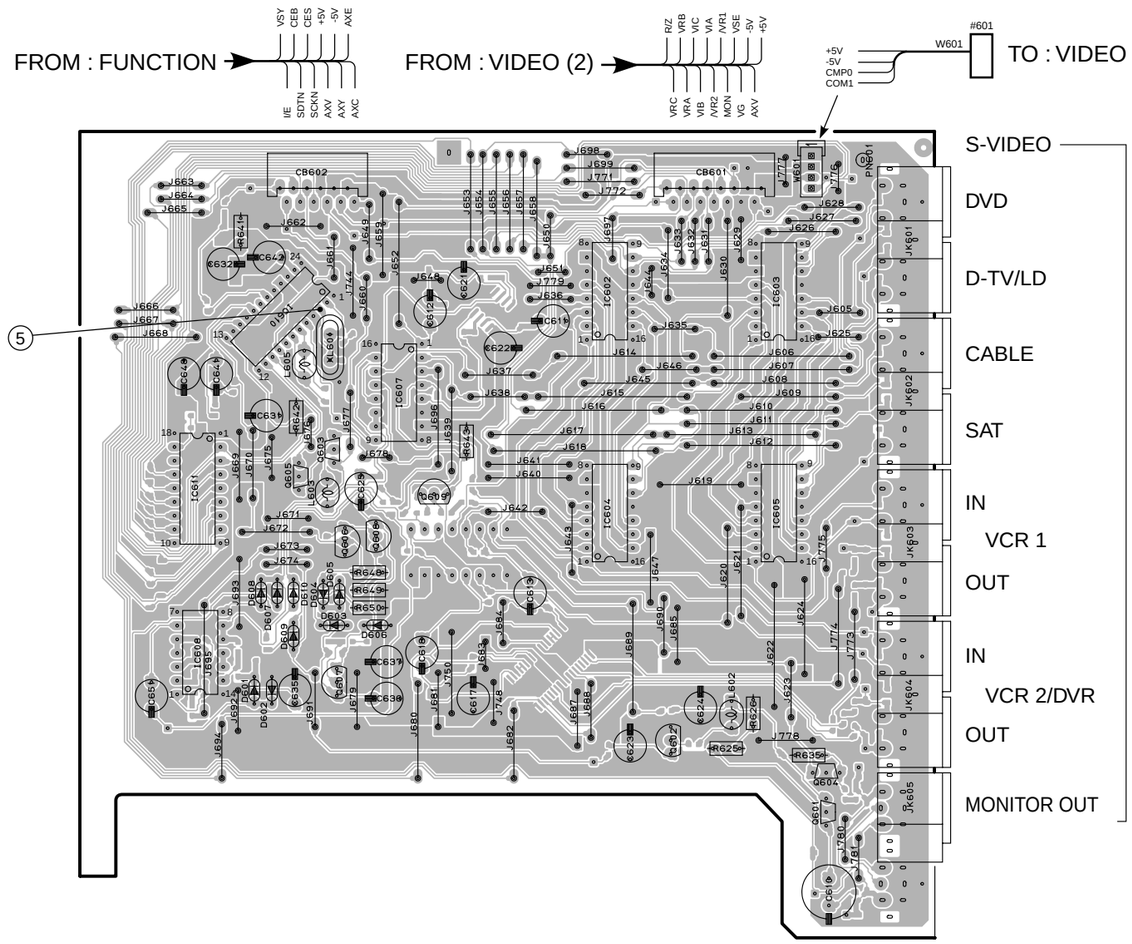
(Surface Mount Device)



■ PRINTED CIRCUIT BOARD (Foil side)

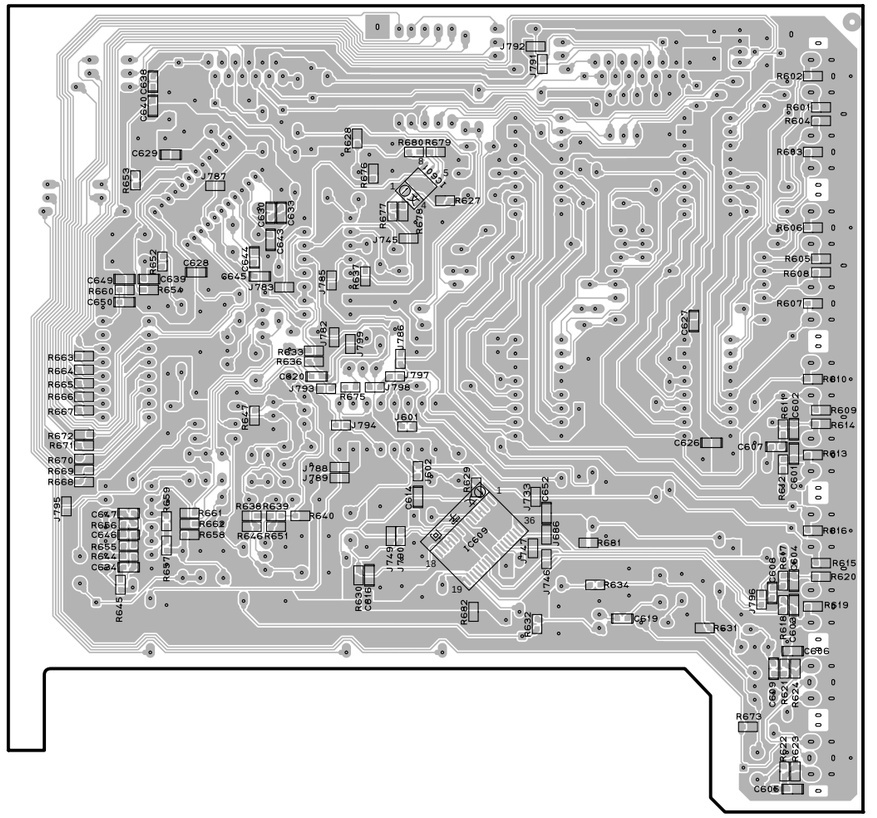
VIDEO (1) P.C.B.

(Lead Type Device)

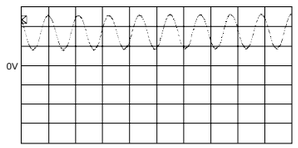


VIDEO (1) P.C.B.

(Surface Mount Device)



Point ⑤ (Pin 3 of IC610)
V : 1V/div, H : 50 nsec/div
DC, 1 : 1 probe



● **Semiconductor Location**

Ref. No.	Location
D601	B4
D602	B4
D603	B3
D604	B3
D605	B3
D606	B3
D607	B3
D608	B3
D609	B3
D601	B3

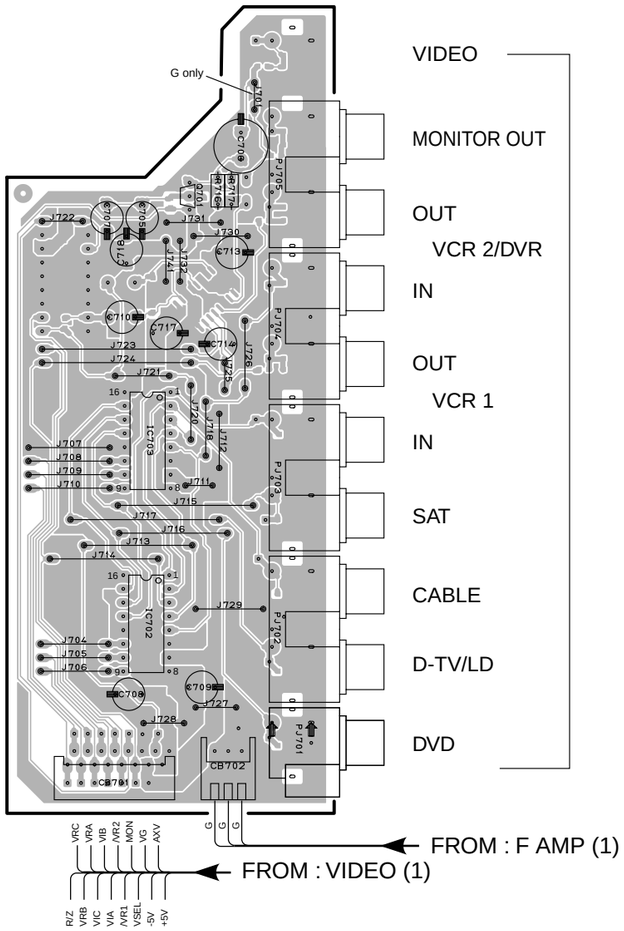
Ref. No.	Location
IC601	F2
IC602	C2
IC603	D2
IC604	C3
IC605	D3
IC607	B3
IC608	B3
IC609	G3
IC610	B2
IC611	B3

Ref. No.	Location
Q601	D4
Q602	C4
Q603	B3
Q604	D4
Q605	B3
Q606	B3
Q607	B3
Q608	B3
Q609	B3

■ PRINTED CIRCUIT BOARD (Foil side)

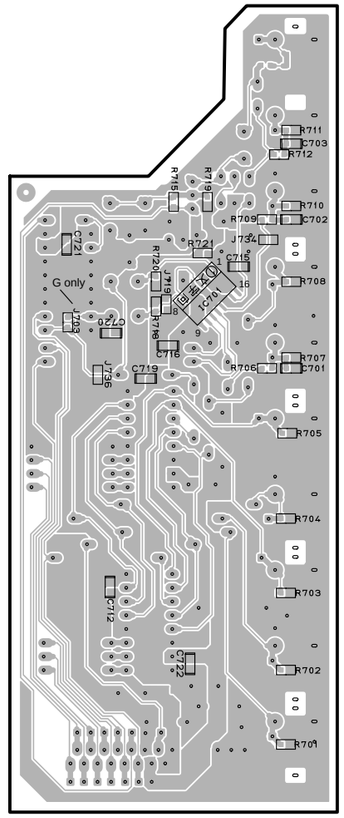
VIDEO (2) P.C.B.

(Lead Type Device)



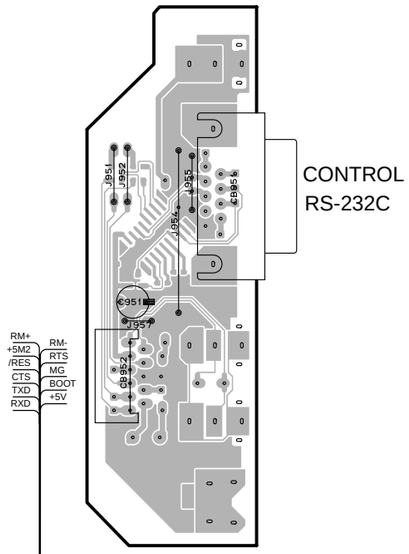
VIDEO (2) P.C.B.

(Surface Mount Device)



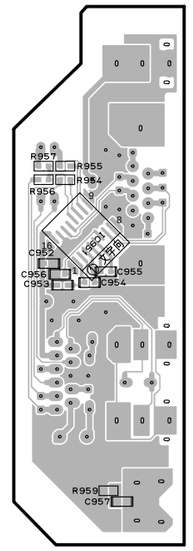
VIDEO (6) P.C.B.

(Lead Type Device)



VIDEO (6) P.C.B.

(Surface Mount Device)

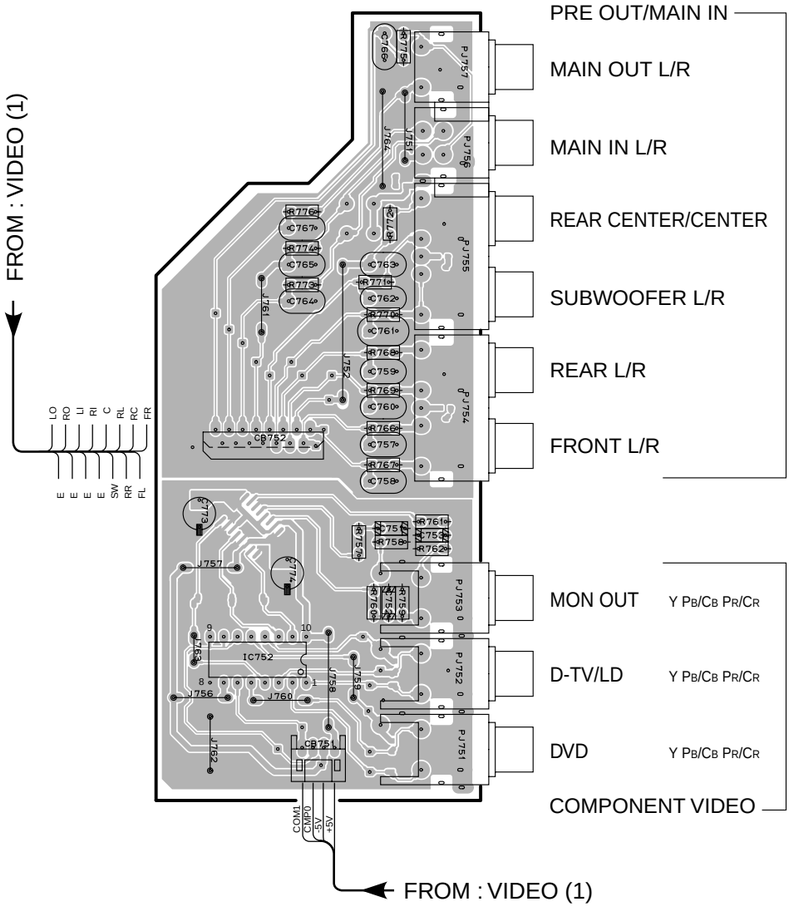


● **Semiconductor Location**

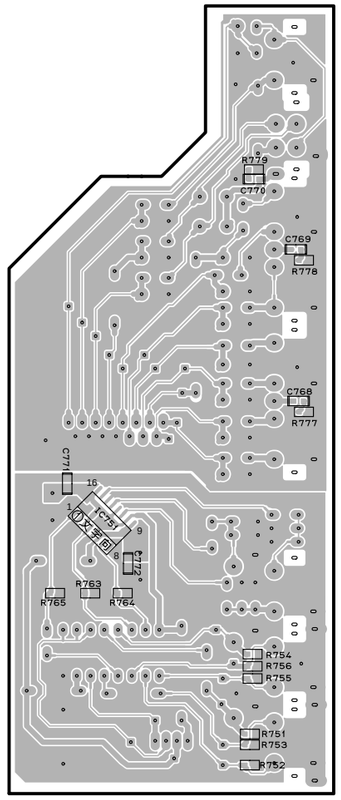
Ref. No.	Location
IC701	D2
IC702	B3
IC703	B3
IC951	G2
Q701	B2

■ PRINTED CIRCUIT BOARD (Foil side)

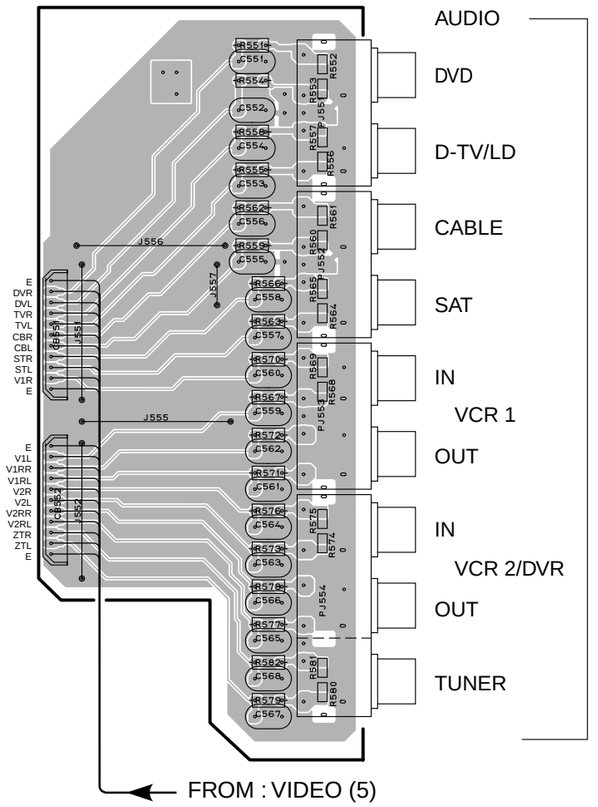
VIDEO (3) P.C.B.
(Lead Type Device)



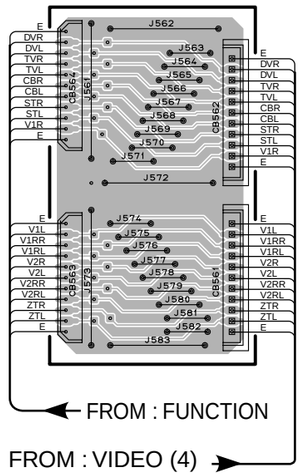
VIDEO (3) P.C.B.
(Surface Mount Device)



VIDEO (4) P.C.B.



VIDEO (5) P.C.B.

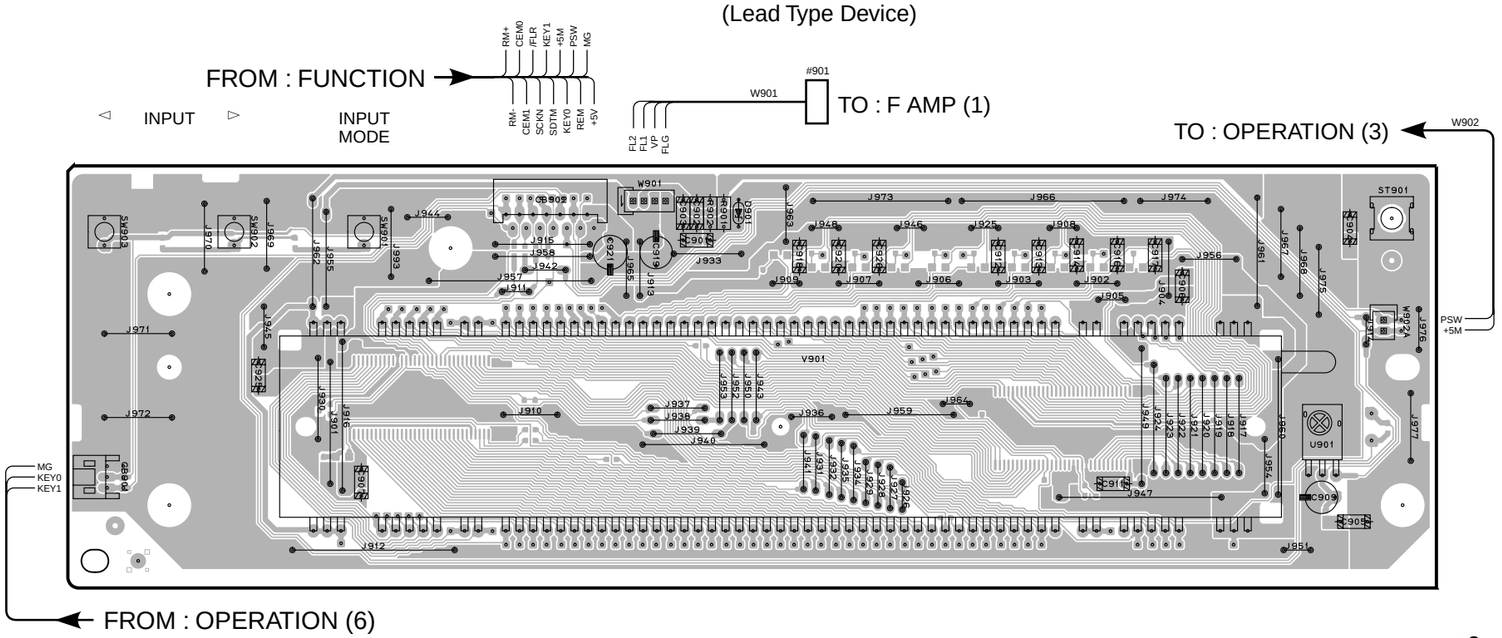


● **Semiconductor Location**

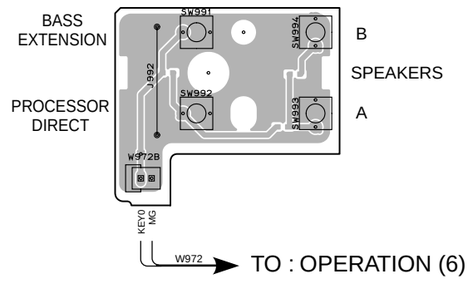
Ref. No.	Location
IC751	D3
IC752	B4

■ PRINTED CIRCUIT BOARD (Foil side)

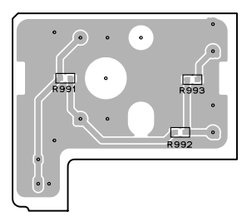
OPERATION (1) P.C.B.
(Lead Type Device)



OPERATION (5) P.C.B.
(Lead Type Device)



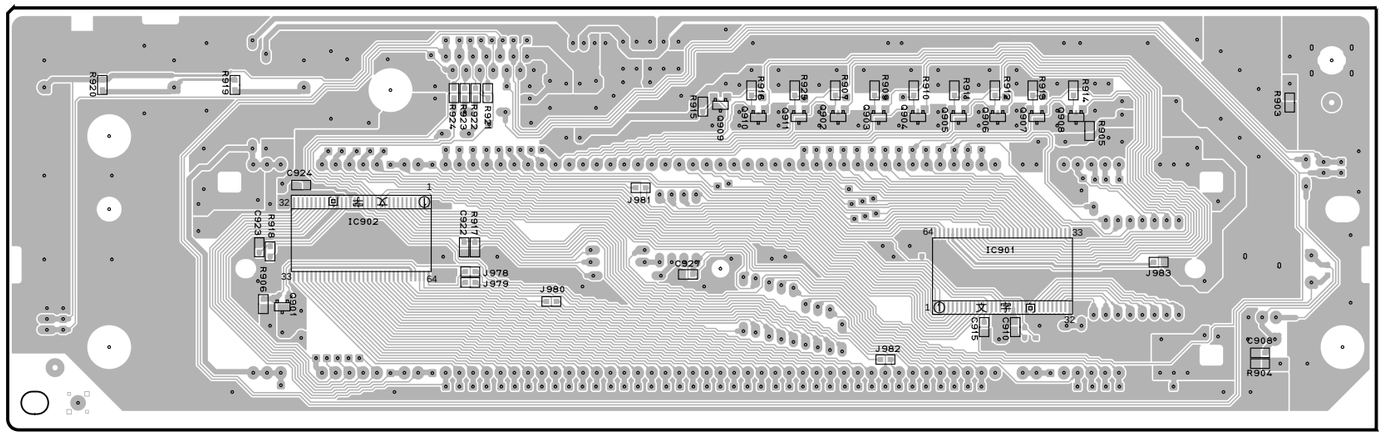
OPERATION (5) P.C.B.
(Surface Mount Device)



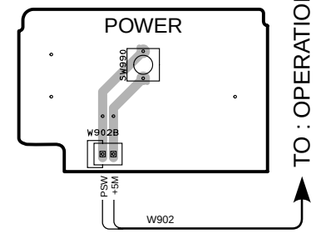
● **Semiconductor Location**

Ref. No.	Location
D901	C2
IC901	D5
IC902	B5
Q901	B5
Q902	D5
Q903	D5
Q904	D5
Q905	D5
Q906	D5
Q907	D5
Q908	D5
Q909	C5
Q910	C5
Q911	D5

OPERATION (1) P.C.B.
(Surface Mount Device)



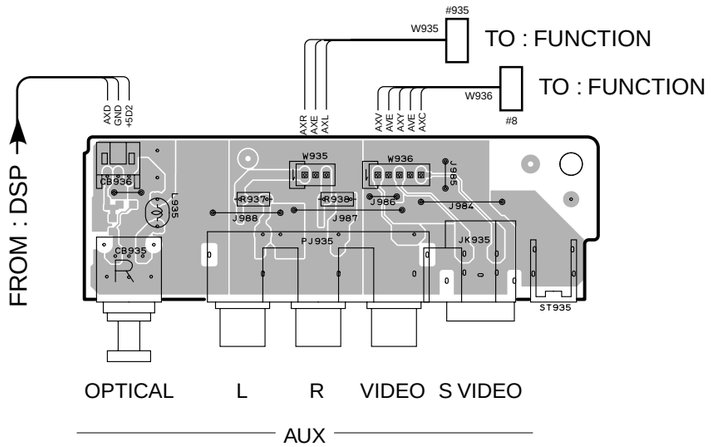
OPERATION (3) P.C.B.



■ PRINTED CIRCUIT BOARD (Foil side)

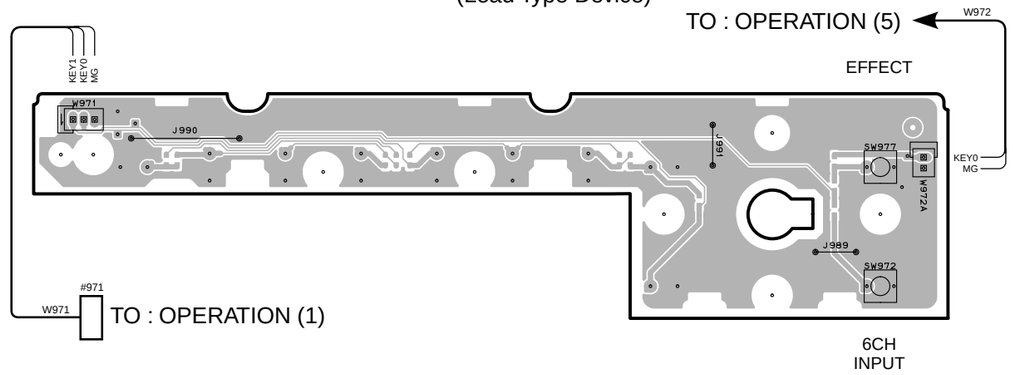
OPERATION (4) P.C.B.

(Lead Type Device)



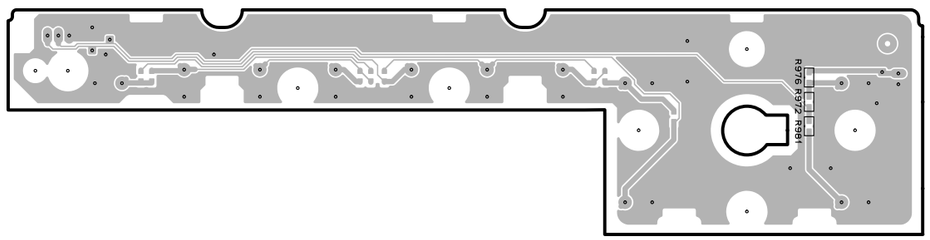
OPERATION (6) P.C.B.

(Lead Type Device)



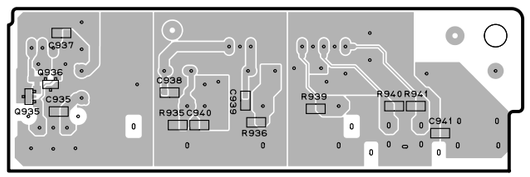
OPERATION (6) P.C.B.

(Surface Mount Device)

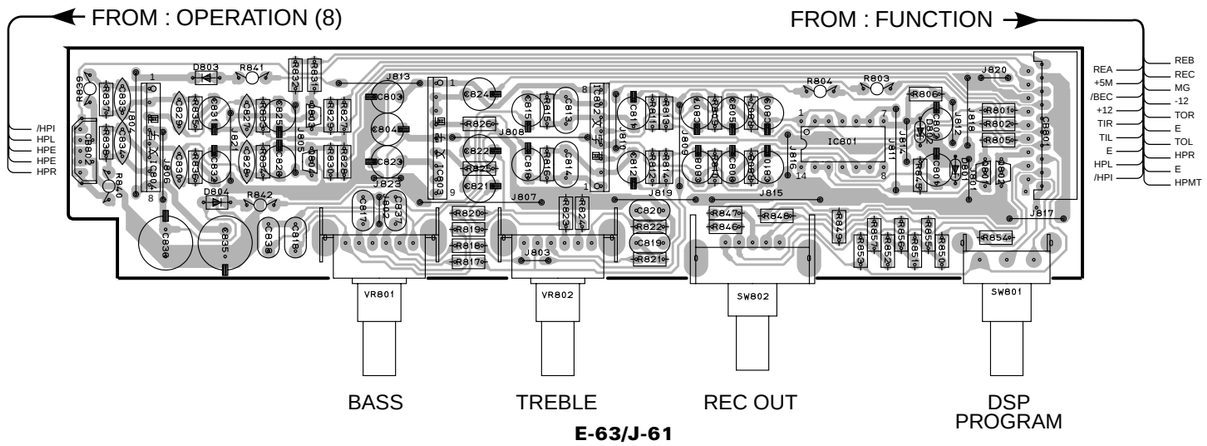


OPERATION (4) P.C.B.

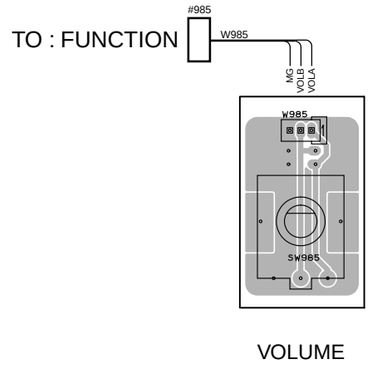
(Surface Mount Device)



OPERATION (2) P.C.B.



OPERATION (7) P.C.B.



● **Semiconductor Location**

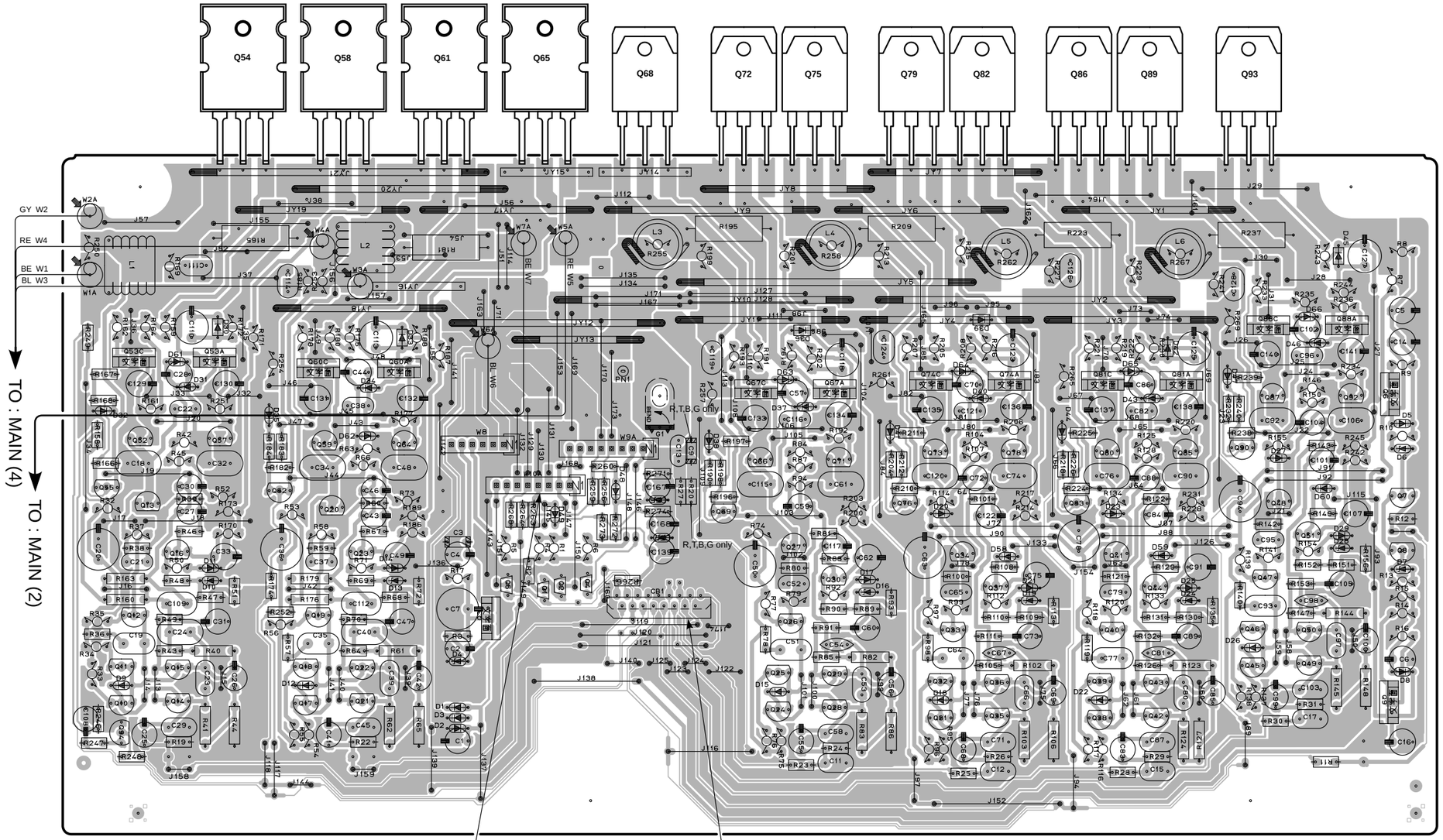
Ref. No.	Location
D801	F5
D802	F5
D803	C5
D804	C5

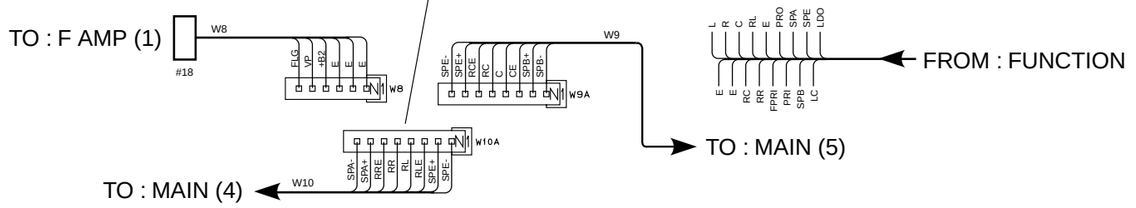
Ref. No.	Location
IC801	E5
IC802	E5
IC803	D5
IC804	C5

Ref. No.	Location
Q801	F5
Q802	F5
Q803	D5
Q804	D5
Q935	A4
Q936	A4

■ PRINTED CIRCUIT BOARD (Foil side)

MAIN (1) P.C.B.





● **Semiconductor Location**

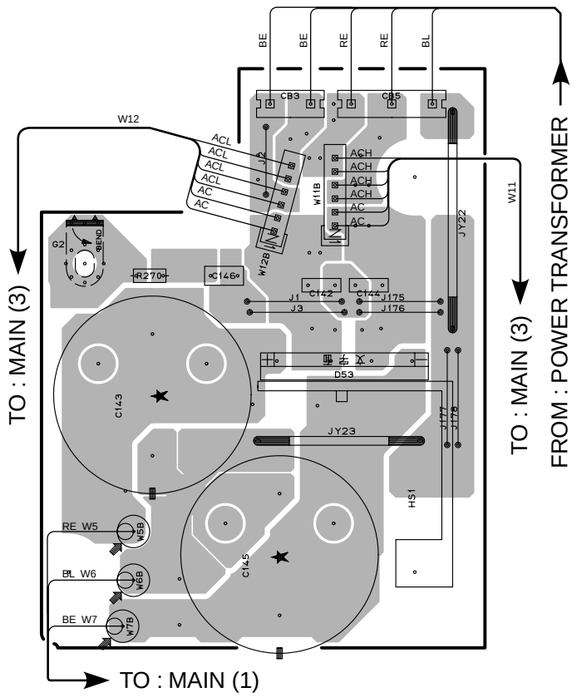
Ref. No.	Location
D1	C4
D2	C4
D3	C4
D4	C4
D5	G3
D6	G3
D7	G4
D8	G4
D9	A4
D10	B4
D11	B4
D12	B4
D13	C4
D14	C4
D15	D4
D16	E4
D17	E4
D18	E4
D19	E4
D20	E3
D21	E4
D22	F4
D23	F3
D24	F4
D25	F4
D26	F4
D27	F3
D28	G4
D29	G3
D30	B3
D31	B3
D32	A3
D33	C3
D34	C3
D35	B3
D36	D3
D37	D3
D38	D3
D39	E3
D40	E3
D41	E3
D42	F3
D43	F3
D44	E3
D45	F2
D46	F3
D47	F3
D48	D3
D49	C3
D56	D3
D57	D3
D58	E4
D59	F4
D60	F3
D61	B3
D62	C3
D63	D3
D64	E3
D65	F3
D66	F3

Ref. No.	Location
Q1	C4
Q2	C4
Q3	C4
Q4	C4
Q5	C4
Q6	G3
Q7	G3
Q8	G4
Q9	G4
Q10	A4
Q11	A4
Q12	B4
Q13	B3
Q14	B4
Q15	B4
Q16	B4
Q17	B4
Q18	B4
Q19	B4
Q20	B3
Q21	B4
Q22	B4
Q23	B4
Q24	D4
Q25	D4
Q26	D4
Q27	D4
Q28	D4
Q29	D4
Q30	D4
Q31	E4
Q32	E4
Q33	E4
Q34	E4
Q35	E4
Q36	E4
Q37	E4
Q38	F4
Q39	F4
Q40	F4
Q41	F4
Q42	F4
Q43	F4
Q44	F4
Q45	F4
Q46	F4
Q47	F4
Q48	F3
Q49	F4
Q50	F4
Q51	F3
Q52	B3
Q53A	B3
Q53C	B3
Q54	B2
Q55	A3
Q56	B3
Q57	B2
Q58	B2
Q59	B3
Q60A	C3
Q60C	B3
Q61	C2
Q62	B3
Q64	C3
Q65	C2
Q66	D3
Q67A	D3
Q67C	D3
Q68	D2
Q69	D3
Q70	D3
Q71	D2
Q72	E3
Q73	E3
Q74A	E3
Q74C	E3
Q75	D2
Q76	E3
Q78	E3
Q79	E2
Q80	F3
Q81A	F3
Q81C	F3
Q82	E2
Q83	E3
Q85	F3
Q86	E2
Q87	F3
Q88A	G3
Q88C	F3
Q89	F2
Q90	F3
Q92	G3
Q93	F2
Q94	A4

■ PRINTED CIRCUIT BOARD (Foil side)

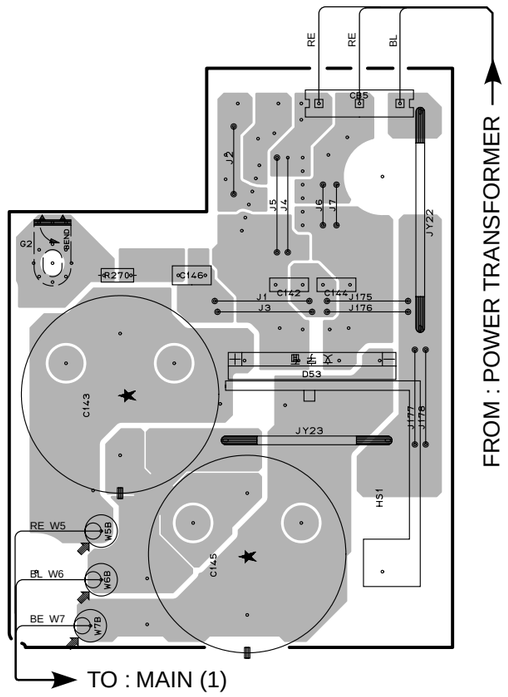
● R, T, B, G models

MAIN (2) P.C.B.



● J model

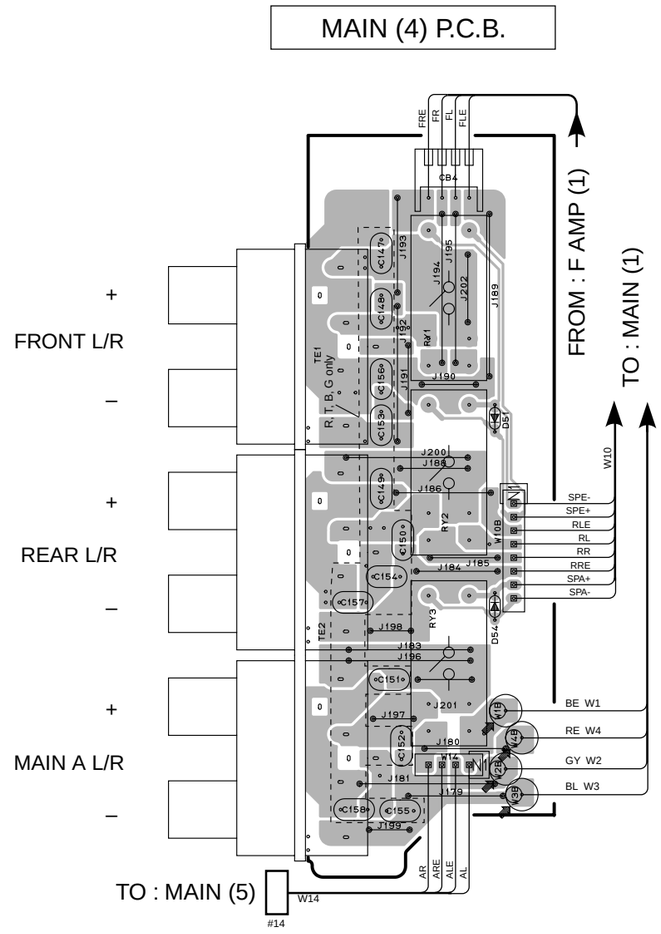
MAIN (2) P.C.B.



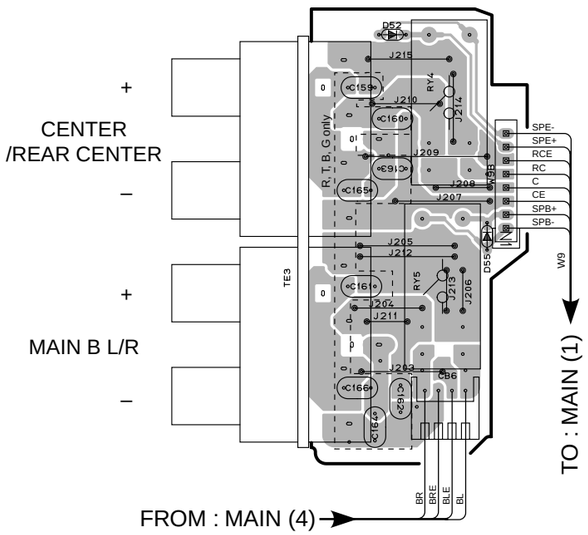
● **Semiconductor Location**

Ref. No.	Location
D51	H2
D52	F4
D53	B2/D3
D54	H3
D55	F5

MAIN (4) P.C.B.

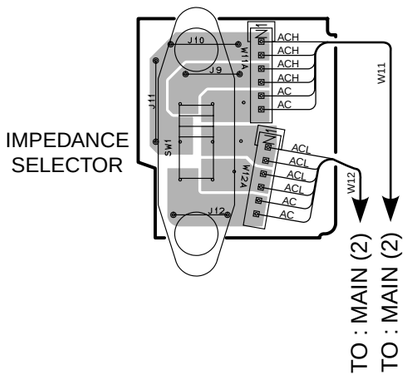


MAIN (5) P.C.B.



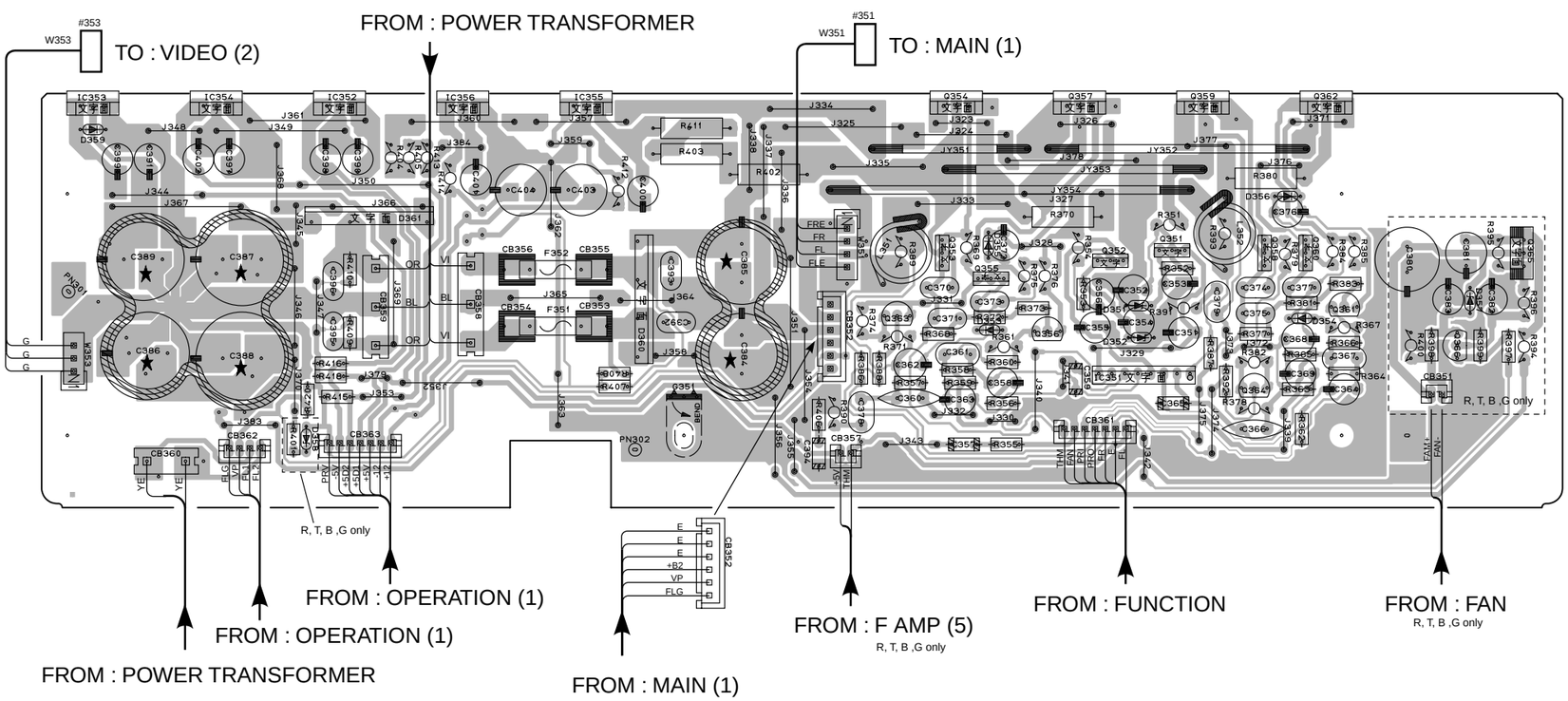
● R, T, B, G models

MAIN (3) P.C.B.



■ PRINTED CIRCUIT BOARD (Foil side)

F AMP (1) P.C.B.



● **Semiconductor Location**

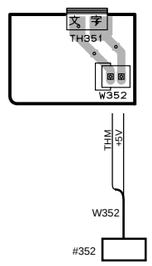
Ref. No.	Location
D351	E2
D352	E2
D353	D2
D354	E2
D355	D2
D356	E2
D357	F2
D358	B3
D359	A2
D360	C2
D361	B2

Ref. No.	Location
IC351	E2
IC352	B2
IC353	A2
IC354	B2
IC355	C2
IC356	C2

Ref. No.	Location
Q351	E2
Q352	E2
Q353	D2
Q354	D2
Q355	D2
Q356	D2
Q357	E2
Q358	E2
Q359	E2
Q360	E2
Q361	E2
Q362	E2
Q363	D2
Q364	E3
Q365	F2
Q366	F2

● R, T, B, G models

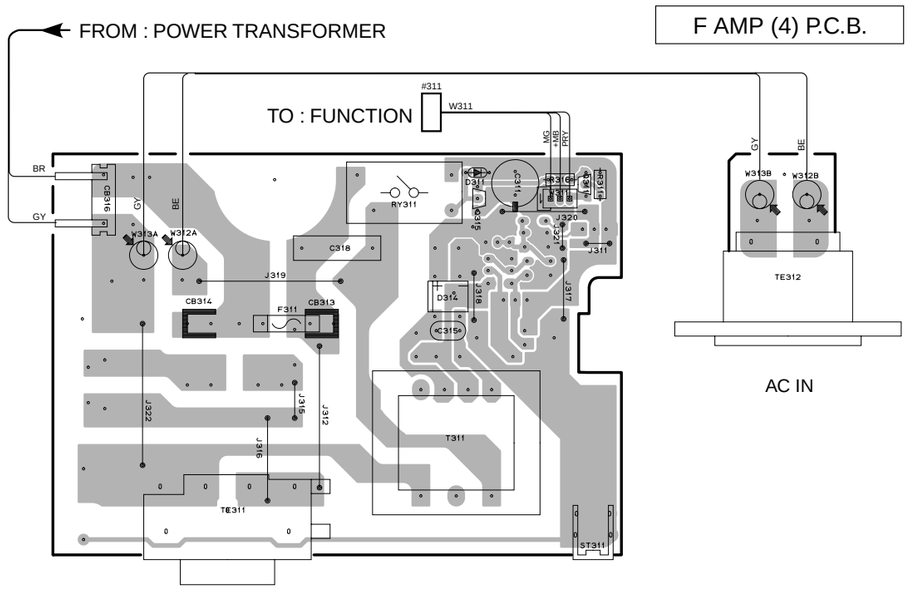
F AMP (5) P.C.B.



■ PRINTED CIRCUIT BOARD (Foil side)

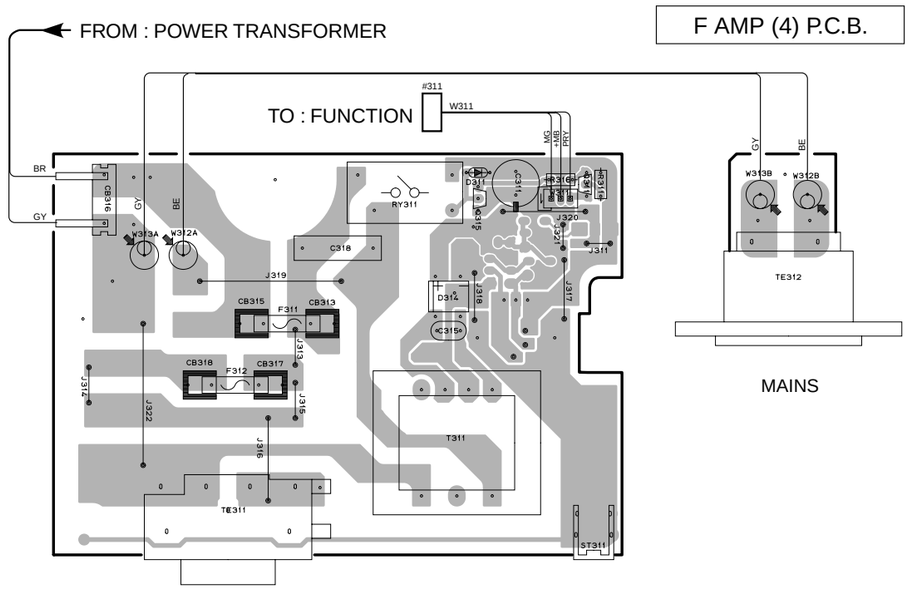
● J model

F AMP (2) P.C.B.



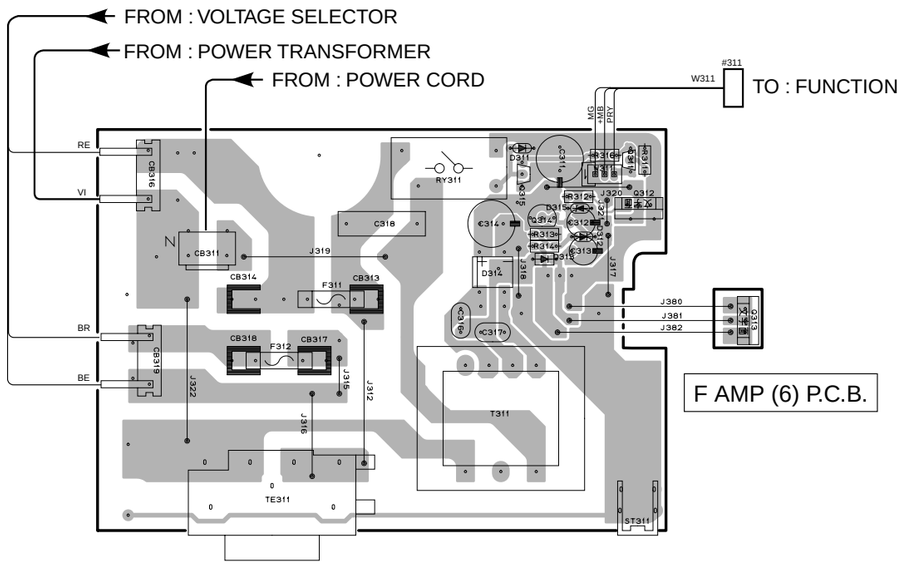
● G model

F AMP (2) P.C.B.



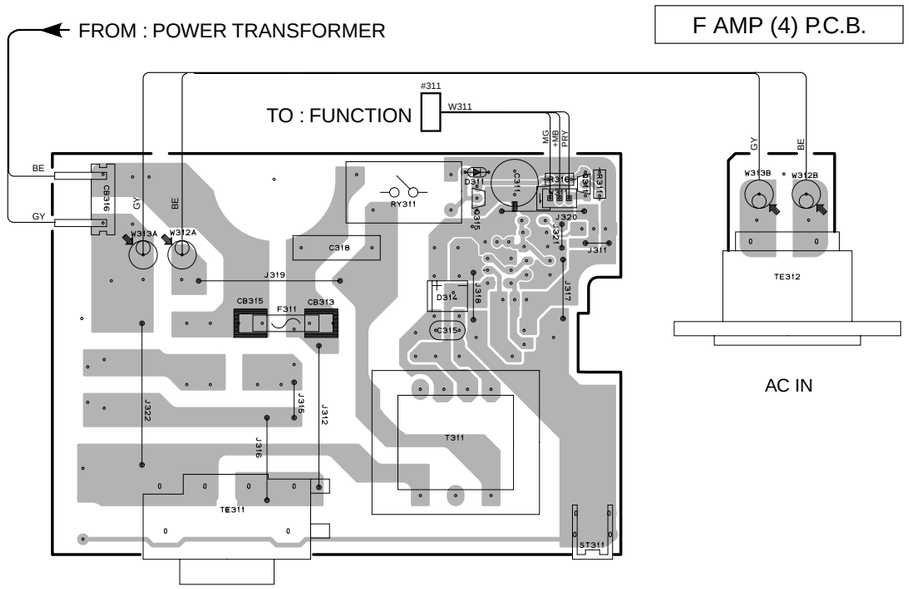
● R, T models

F AMP (2) P.C.B.

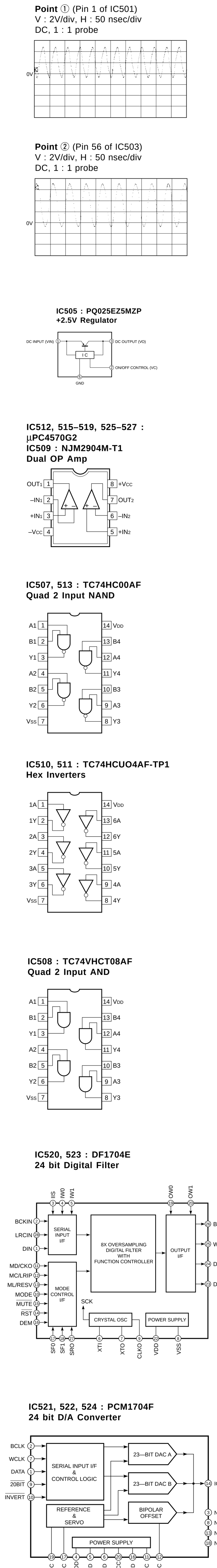


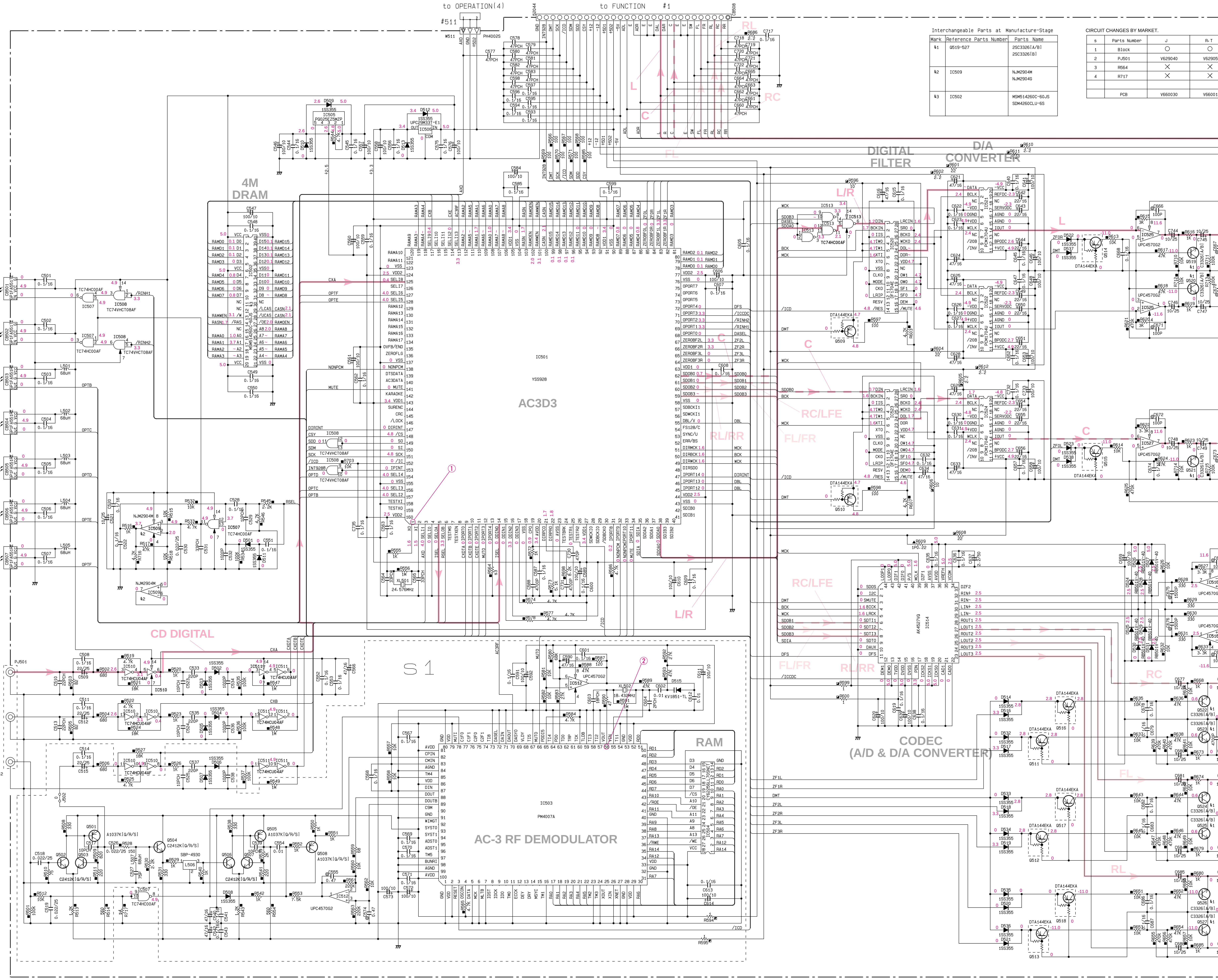
● B model

F AMP (2) P.C.B.



■ SCHEMATIC DIAGRAM (DSP)





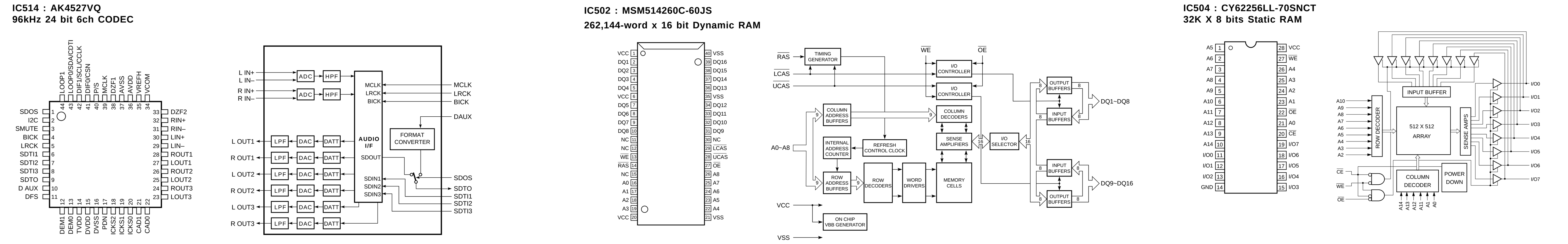
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	Q519–527	2SC3326[A/B] 2SC3326[B]
&2	IC509	NJM2904M NJM2904G
&3	IC502	MSM514260C-60JS SDM4260CLU-6S

CIRCUIT CHANGES BY MARKET.

X : NOT USED
O : USED

s	Parts Number	J	R.T	B.G	Memo
1	Block	○	○	×	RF Demodulator
2	PJ501	V629040	V629050	V571530	RF Demodulator
3	R564	×	×	4.7K RD35647	RF Demodulator
4	R717	×	×	100K RD35810	RF Demodulator
	PCB	V660030	V660010	V660020	



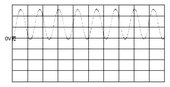
Conditions

- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

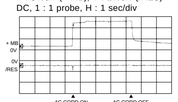
* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (FUNCTION)

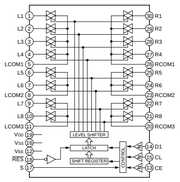
Point ③ (Pin 20 of IC26)
V : 2V/div, H : 50 nsec/dv
DC, 1 : 1 probe



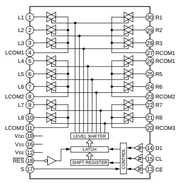
Point ④-A (+MB : Emitter of Q506)
Point ④-B (/RES : Collector of Q507)
V : 5V/div (+ MB), V : 1V/div (/RES)
DC, 1 : 1 probe, H : 1 sec/div



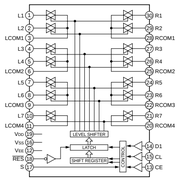
IC503, 512 : LC78211
Analog Function Switch



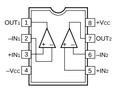
IC502, 504 : LC78212
Analog Function Switch

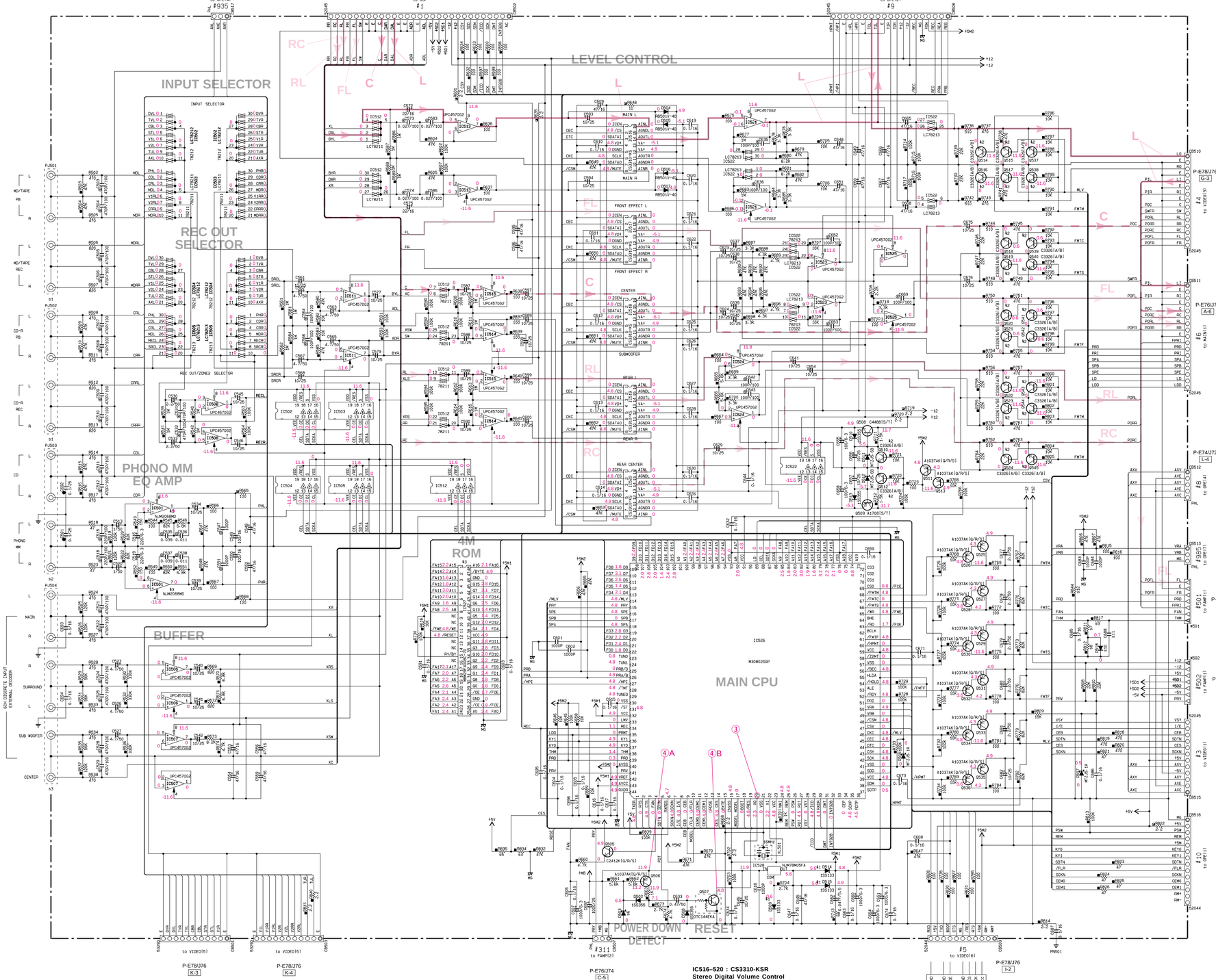


IC505, 522 : LC78213
Analog Function Switch



IC501 : NJM2068MD-T1
IC506–508, 511, 513–515, 521, 523–525 : µPC4570G2
Dual OP-Amp





CIRCUIT CHANGES BY MARKET. X : NOT USED

s	Circuit No.	J	A-T	BG	
1	PJ501-502	V480700	V385560	V385560	
		VK17740	VJ69630	VJ69630	
2	PJ503	V480580	V419890	V419890	
		VZ06820	VG26090	VG26090	
3	PJ504	VG45360	V419920	V419920	
4	RB34		47K	×	NTSC
5	RB35	×	×	47K	PAL
6	D503	MTZJ6.8A	MTZJ6.2C	MTZJ6.8A	CES 時
7	RB11	×	100	100	
8	RB12	×	100K	100K	
9	RB17	×	470	470	
10	D518	×	1SS355	1SS355	
11	D688	×	0.1/16	0.1/16	
12	RB44	100K	×	×	

s	Circuit No.	J	A-T	BG	
1	PJ501-502	V480700	V385560	V385560	
		VK17740	VJ69630	VJ69630	
2	PJ503	V480580	V419890	V419890	
		VZ06820	VG26090	VG26090	
3	PJ504	VG45360	V419920	V419920	
4	RB34	RD35747	RD35747	×	NTSC
5	RB35	×	×	RD35747	PAL
6	D503	VG43820	VG43820	VG43820	CES 時
7	RB11	×	RD35510	RD35510	
8	RB12	×	RD35810	RD35810	
9	RB17	×	RD39547	RD39547	
10	D518	×	YT33290	YT33290	
11	D688	×	US13510	US13510	
12	RB44	RD35810	×	×	

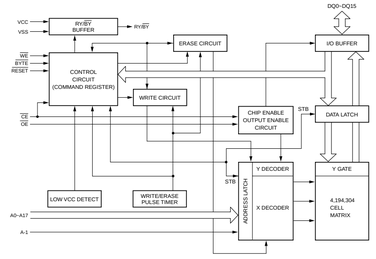
Other Parts

JY501·504·505·508·510	V477550
JY506·509	V477560
JY502·503·507	V477570
PN501·502	V375020
ST501	BB07136

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	D509.514.515	1SS133 HSS104TP
k2	Q510.512.514-524 537-545	2SC3326(A/B) 2SC3326(B)
k3	IC501	NJM2068MD-T1 µPC4570G2-T1
k4		
k5		

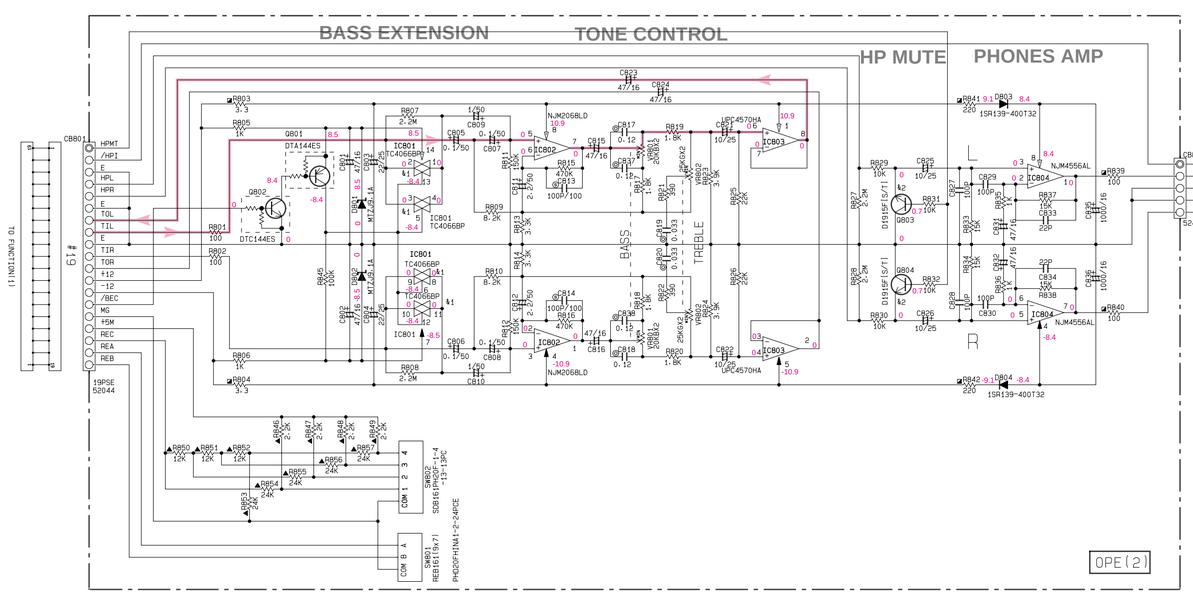
IC527 : MBM29F400BC-70
4M Bit Flash Memory

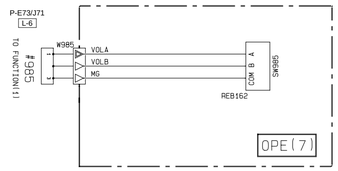


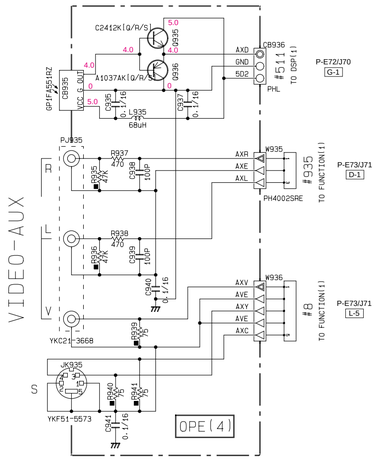
Conditions
- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

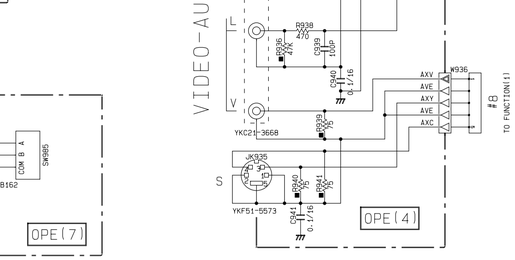
* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (OPERATION)

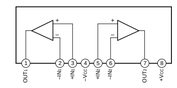




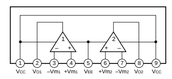




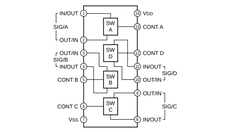
IC802 : NJM2068L-D
IC804 : NJM4556AL
Dual OP-Amp

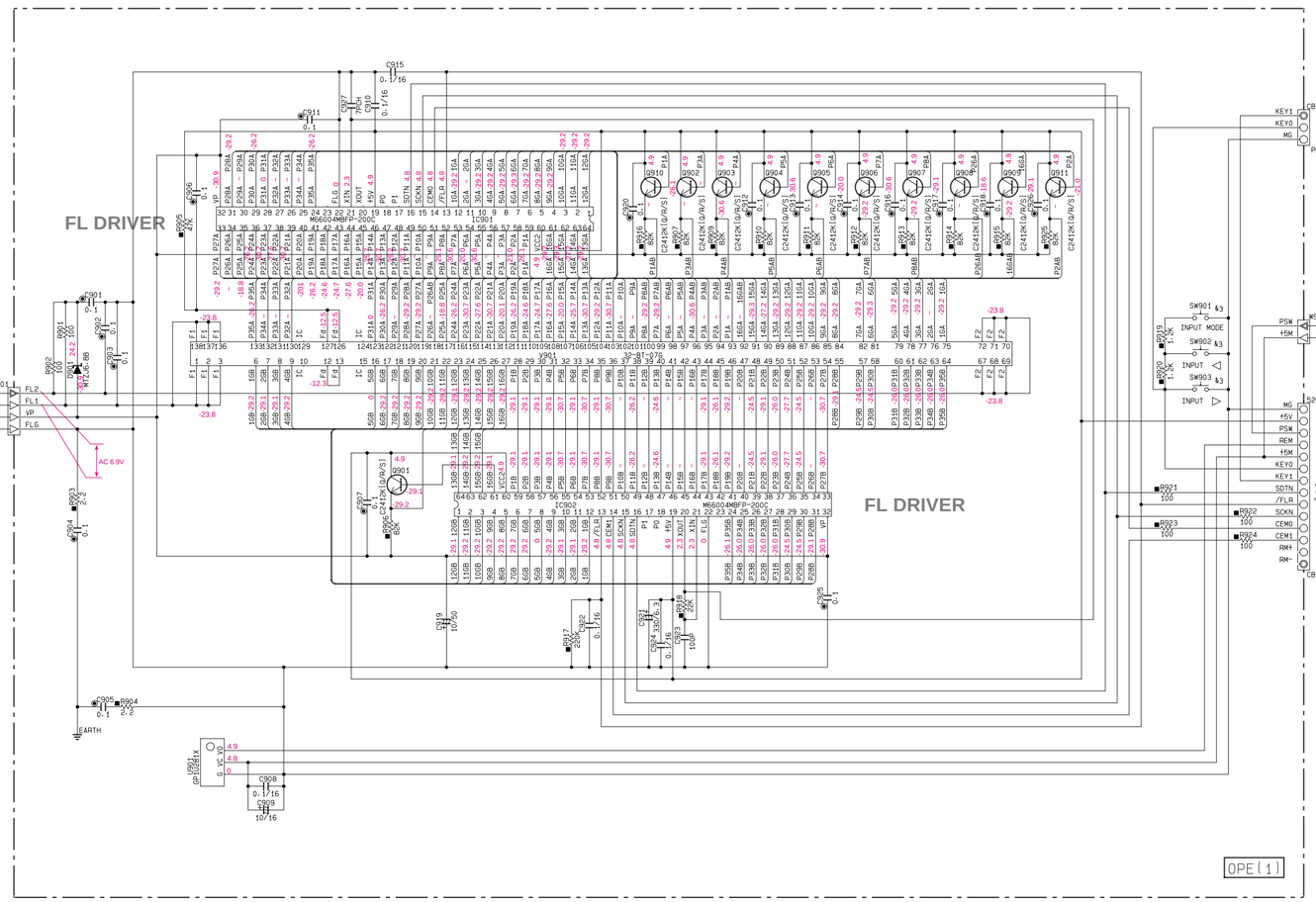


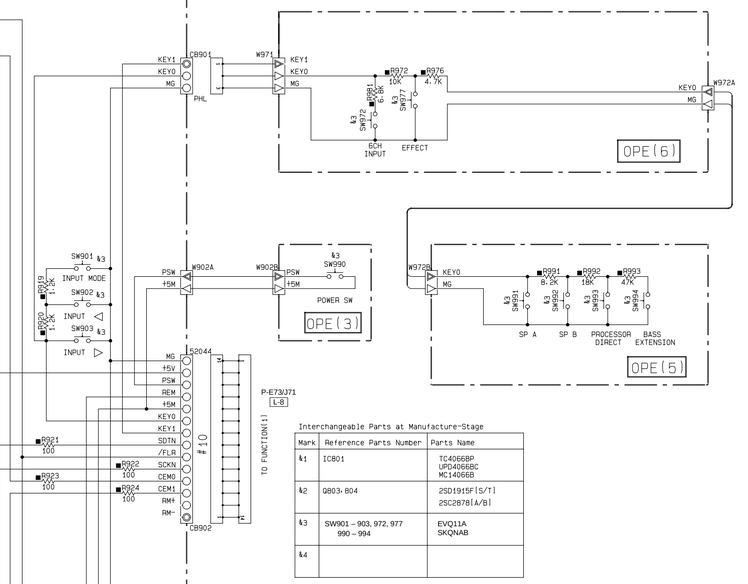
IC803 : µPC4570HA
Dual OP-Amp



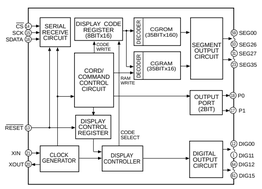
IC801 : TC4066BP
Quad Analog Switch/Multiplexer







IC901, 902 : M66004MBFP-200C
FL Display Driver



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	IC801	TC4066BP UPD4066BC MC14066B
k2	Q803·804	2SD1915F[S/T] 2SC2878[A/B]
k3	SW901～903, 972, 977 990～994	EVQ11A SKQNAB
k4		

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
⚠	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

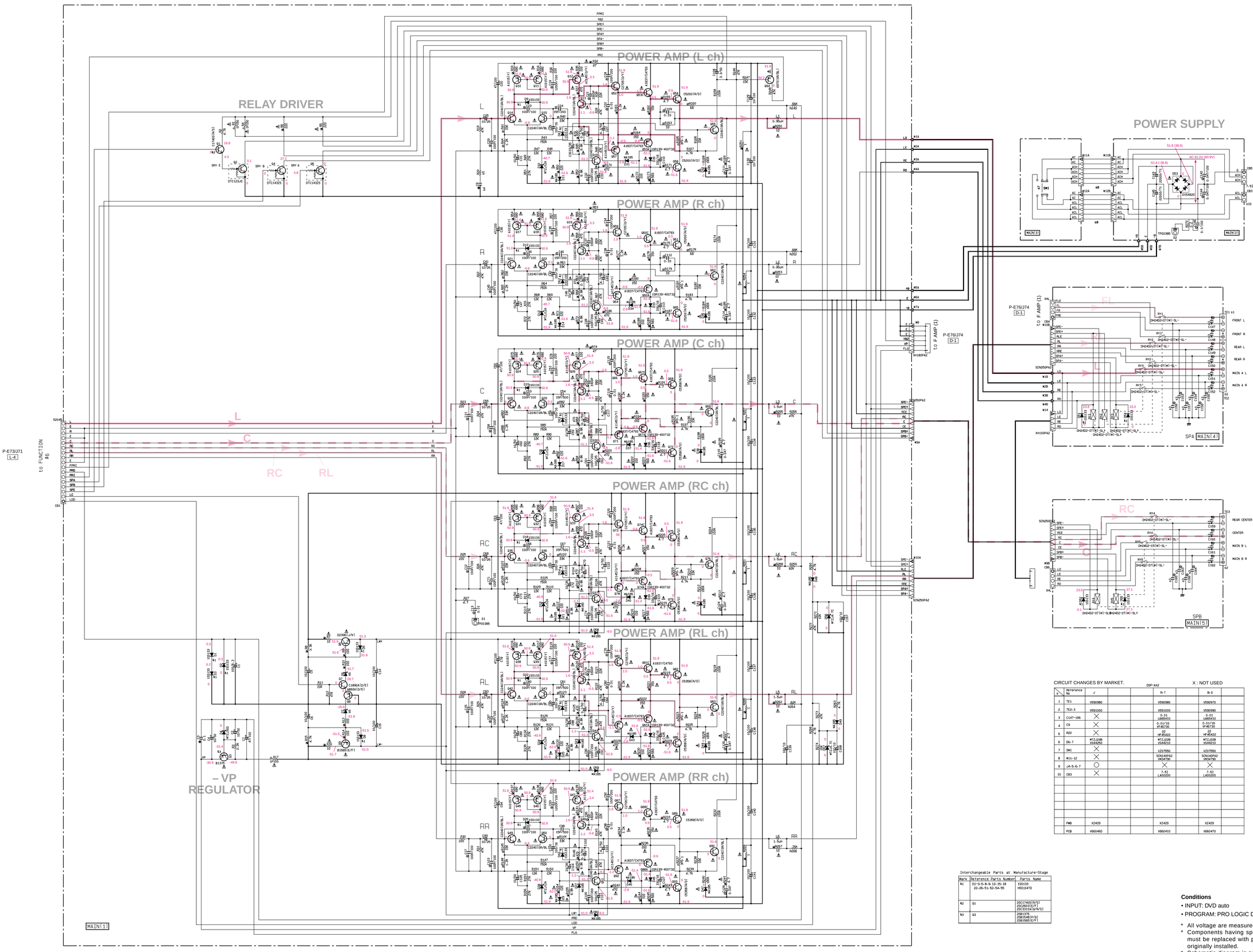
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	‖
⊗	TANTALUM CAPACITOR	‖
NO MARK	CERAMIC CAPACITOR	⫴
◉	CERAMIC TUBULAR CAPACITOR	⫴
◎	POLYESTER FILM CAPACITOR	⫴
○	POLYSTYRENE FILM CAPACITOR	⫴
ⓘ	MICA CAPACITOR	⫴
ⓟ	POLYPROPYLENE FILM CAPACITOR	⫴
◉	SEMICONDUCTIVE CERAMIC CAPACITOR	⫴
Ⓢ	POLYPHENYLENE SULFIDE FILM CAPACITOR	⫴

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

Conditions
- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (MAIN)



CIRCUIT CHANGES BY MARKET. X : NOT USED

No.	Reference No	J		DSP-AX2 A-T		B-G	
1	TE1	V590980		V590980		V590970	
2	TE2-3	V591000		V591000		V590990	
3	C147-166	×		0.01 UA05410		0.01 UA05410	
4	C9	×		0.01/16 VF45730		0.01/16 VF45730	
5	R20	×		22 HF45422		22 HF45422	
6	D5-7	WTZJ24B V544210		WTZJ22B V544210		WTZJ22B V544210	
7	SW1	×		V207550		V207550	
8	W15-12	×		SCN140PA2 VM34790		SCN140PA2 VM34790	
9	J4-5-6-7	○		×		×	
10	CB3	×		7.51 LA02020		7.51 LA02020	
	PWB	XZ429		XZ429		XZ429	
	PCB	V660460		V660410		V660470	

Interchangeable Parts at Manufacture-Stage

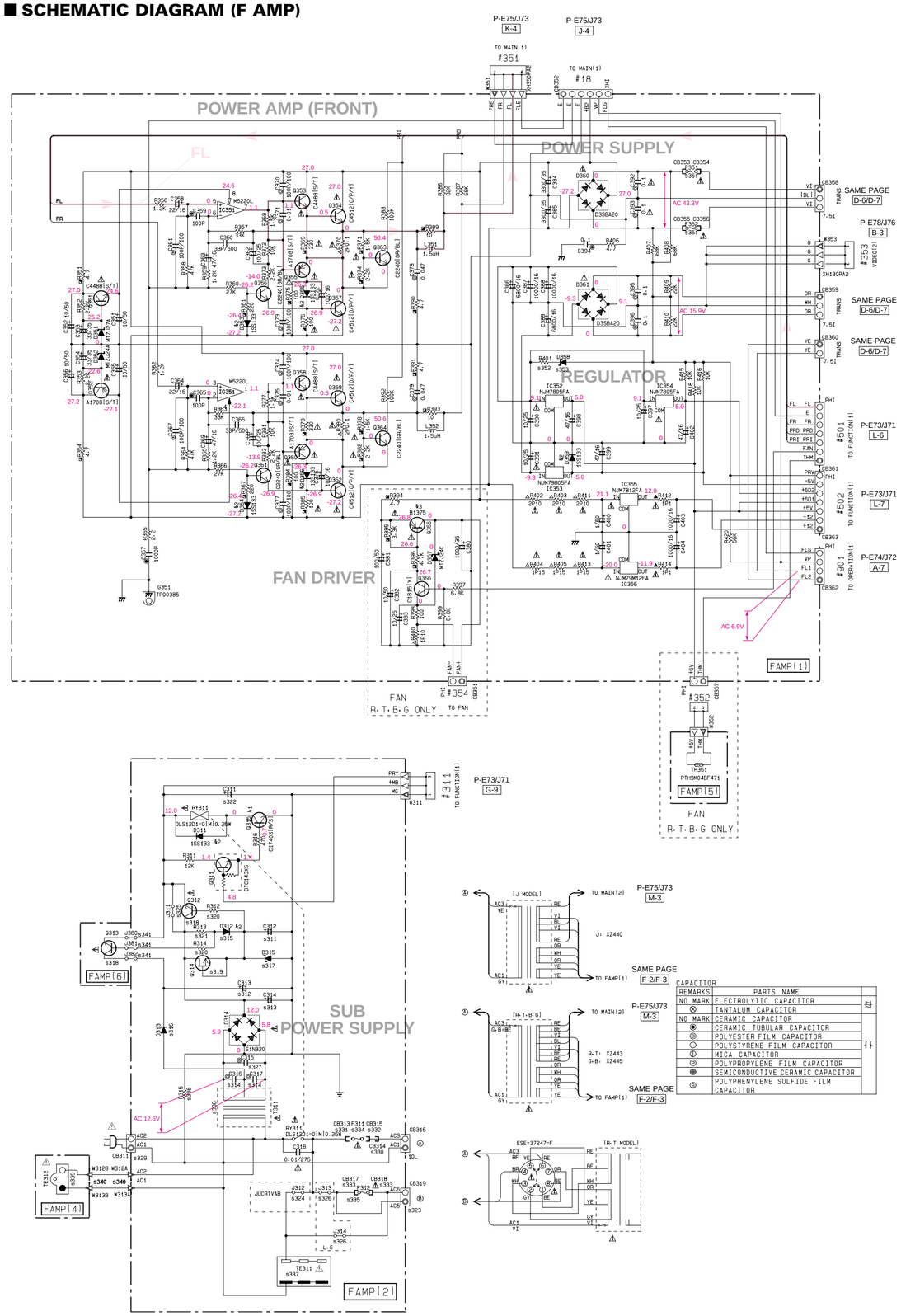
Mark	Reference Parts Number	Parts Name
k1	D1-3-5-8-9-13-15-18 20-25-51-52-54-55	1SS133 MSS1047D
k2	Q1	2SC1740S(A/S) 2SC2603(E/F) 2SC3311A(D/R/S)
k3	Q3	2SB1375 2SB1548(D/Q) 2SB1565(E/F)

Conditions

- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (F AMP)

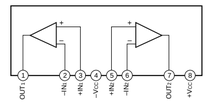


CIRCUIT CHANGES BY MARKET.

X : NOT USED
O : USED

S	Reference No	J	A.T	B	G
311	C312	X	UU14710 10/25	X	X
312	C313	X	UU16710 10/50	X	X
313	C314	X	UU19747 47/100	X	X
314	C316-317	X	0.01 V171670	X	X
315	D312	X	1SS133 IP00460	X	X
316	D313	X	VU26410 1SR139-400TJG	X	X
317	D315	X	VG43990 MTZJ11B	X	X
318	Q312-313	X	VR51080 D2396[J/K]	X	X
319	Q314	X	IE10262 K2461[Y]	X	X
320	R312-314	X	HF45510 100	X	X
321	R313	X	HF45710 10K	X	X
322	C311	UU14710 10/25	UU14810 100/25	UU14710 10/25	UU14710 10/25
323	CB319	X	LA00241 10L	X	X
324	J312	○	○	○	X
325	J311	○	X	○	○
326	J313-314	X	X	X	○
327	C315	0.01 V171670	X	0.01 V171670	0.01 V171670
328					
329	CB311	X	VG87990	VG87990	X
330	CB314	VS99610	VS99610	X	X
331	CB313	VS99610	VS99610	VP20650	VP20650
332	CB315	X	X	VP20650	VP20650
333	CB317-318	X	VP20650	X	VP20650
334	F311	KB00149 10A250V	KB00139 10A250V	KB00078 T5AL250V	KB00078 T5AL250V
335	F312	X	KB00078 T5AL250V	X	VT94290 T2.5AH250V
336	T311	XZ227	XZ229	XZ231	XZ231
337	TE311	VV11880 S2-7651-212	V586704 T65-58-11V	VU54330 S2-7721-210	VV11900 S2-7631-212
338	R315	X	X	X	X
339	TE312	V656120 M190B-G	X	V656120 M190B-G	X
340	W312-313	V656850	X	V656850	X
341	J380-382	X	○	X	X
342					
351	F351-352	6A 125V KB00364	5A 250V KB00324	5A 250V KB00324	5A 250V KB00324
352	R401	X	1K HF45610	X	X
353	D358	X	MTZJ15B VG44080	X	X
354	FAN	X	○	○	○
PCB		V660260	V660270	V660280	V660290
PWB		XZ428	XZ426	XZ427	XZ427

IC351 : M5220L
Dual OP-Amp



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	Q315	2SC1740S[R/S] 2SC2603[E/F] 2SC3311A[G/R/S]
k2	D311-312-D353-356 D359	1SS133 HSS104TD
k3	Q365	2SB1375 2SB1548[P/Q] 2SB1565[E/F]
k4		
k5		

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
Ⓜ	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
Ⓜ	MICA CAPACITOR
Ⓟ	POLYPROPYLENE FILM CAPACITOR
◉	SEMICONDUCTIVE CERAMIC CAPACITOR
Ⓢ	POLYPHENYLENE SULFIDE FILM CAPACITOR

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

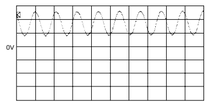
NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

Conditions
- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (VIDEO 1/2)

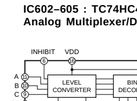
Point ⑤ (Pin 3 of IC610)
V : 1V/div, H : 50 nsec/div
DC, 1 : 1 probe



	C	B	A
H	Z1	Y1	X1
L	Z0	Y0	X0

Xn[pin]	C	B	A	INPUT	REC OUT
X0 [13]	L	L	L	SAT	SAT
X1 [14]	L	L	H	DVD/LD	DVD/LD
X2 [15]	L	H	L	D-TV	D-TV
X3 [12]	L	H	H	INHIBIT	INHIBIT
X4 [1]	H	L	L	VCR1	VCR1
X5 [5]	H	L	H	VCR2/DVR	VCR2/DVR
X6 [2]	H	H	L	CABLE	CABLE
X7 [4]	H	H	H	V-AUX	V-AUX

IC601 : TK15420M
VIdeo Amp



IC609 : LA7109
75Ω Video Driver

IC608 : TC74HCUO4AP
Hex Inverters

IC602–605 : TC74HC4051AP
Analog Multiplexer/Demultiplexer

INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

IC607 : TC74HC4053AP
Triple 2-Channel Multiplexer/Demultiplexer

CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

IC611 : BU2092
Serial In/Parallel Out Driver

P-E78/J76 C-3 — VIDEO(2) — #7 — CB601
P-E78/J76 F-3 — VIDEO(3) — #601 — W601
P-E73/J71 L-7 — FUNCTION — #3 — CB602

INPUT SELECTOR
S-SIGNAL DETECTOR
REC OUT SELECTOR
S-VIDEO AMP
OUTPUT EXPASION
S-VIDEO AMP
SUPERIMPOSE
VIDEO(1)

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	IC608	IC74HCU04AP SN74HCU04N MC74HCU04N
k2	Q608	2SC535[A/B/C] 2SC1809[N/P]
k3	Q601·604·605·701	2SC1740S[R/S] 2SC2603[E/F] 2SC3311A[Q/R/S]
k4	Q607	2SC2240[GR/BL] 2SC2909[S/T]
k5	Q602·609	2SC2878[A/B] 2SD1915F[S/T]
k6	Q603	DTC114ES UN4211 DTC114ESA
k7	D601·602·603·604·605·606·607·608·609·610	1SS133 HSS104TD
k8	IC601	TK15420M ADB058AR
k9		
k10		
k11		
k12		

CIRCUIT CHANGES BY MARKET.

S	Parts Number	J	A·T	G·B
601	XL601	14.31818MHz VV94980	14.31818MHz VV94980	17.734475MHz VV94990
602	C619	1500P US06315	1500P US06315	820P US06282
603	C620	390P US06239	390P US06239	270P US06227
604	PJ551–553	LPR6520-9615 V480700	LPR6520-9610 V385560	LPR6520-9610 V385560
605	PJ554	LPR6520-9725 V480710	LPR6520-9720 V385610	LPR6520-9720 V385610
606				
607				
608				
609				
610	JK601·602·603·604	YKF51-5519 VU14490	YKF51-5510 VP11360	YKF51-5510 VP11360
611	JK605	YKF51-5582 V666160	YKF51-5507 VQ96040	YKF51-5507 VQ96040
612				
701				
702				
703				
704				
705				
706				
707				
708	PJ701	YKC21-3145 VU14420	YKC21-3033 VN13460	YKC21-3033 VN13460
709	PJ702·703·704·705	YKC21-3150 VL83460	YKC21-3165 VR11010	YKC21-3165 VR11010
710				
711				
712				
751	PJ751·752·753	YKC21-4139 V456390	YKC21-4144 V623620	YKC21-4144 V623620
752	PJ754	YKC21-3325 VU14460	YKC21-3282 VM72590	YKC21-3282 VM72590
753	PJ755	YKC21-3441 VP97580	YKC21-3077 VJ24950	YKC21-3077 VJ24950
754	PJ756	LPR6521-3415 V454850	LPR6521-3410M V636070	LPR6521-3410M V636070
755	PJ757	YKC21-3149 V652700	YKC21-3172 V266810	YKC21-3172 V266810

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
⚠	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	‖
⊗	TANTALUM CAPACITOR	‖
NO MARK	CERAMIC CAPACITOR	‖
◉	CERAMIC TUBULAR CAPACITOR	‖
◎	POLYESTER FILM CAPACITOR	‖
○	POLYSTYRENE FILM CAPACITOR	‖
Ⓘ	MICA CAPACITOR	‖
Ⓟ	POLYPROPYLENE FILM CAPACITOR	‖
●	SEMICONDUCTIVE CERAMIC CAPACITOR	‖
Ⓢ	POLYPHENYLENE SULFIDE FILM CAPACITOR	‖

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

Conditions
- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (VIDEO 2/2)

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
Ⓜ	MICA CAPACITOR
Ⓟ	POLYPROPYLENE FILM CAPACITOR
◉	SEMICONDUCTIVE CERAMIC CAPACITOR
◎	POLYPHENYLENE SULFIDE FILM CAPACITOR

NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

Xn[pin]	C	B	A	INPUT	REC OUT
X0 [13]	L	L	L	SAT	SAT
X1 [14]	L	L	H	DVD/LD	DVD/LD
X2 [15]	L	H	L	D-TV	D-TV
X3 [12]	L	H	H	INHIBIT	INHIBIT
X4 [1]	H	L	L	VCR1	VCR1
X5 [5]	H	L	H	VCR2/DVR	VCR2/DVR
X6 [2]	H	H	L	CABLE	CABLE
X7 [4]	H	H	H	V-AUX	V-AUX

COMPO	COMP1	
L	L	DVD
H	L	D-TV
*	H	INH

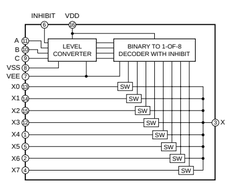
C	B	A	
H	Z1	Y1	X1
L	Z0	Y0	X0

P-E77/J75 G-2 — VIDEO(1)
P-E76/J74 F-2 — F AMP (1)
P-E77/J75 H-2 — VIDEO(1) #601
P-E73/J71 L-3 — FUNCTION #4
P-E73/J71 J-9 — to FUNCTION(1)
P-E73/J71 C-9 — to FUNCTION
P-E73/J71 D-9 — to FUNCTION

INPUT SELECTOR
REC OUT SELECTOR
COMPONENT VIDEO SELECTOR
VIDEO AMP
RS232C INTERFACE

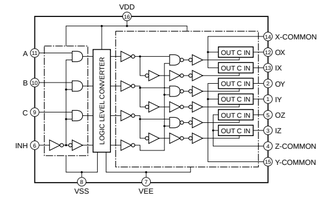
VIDEO(2) VIDEO(3) VIDEO(4) VIDEO(5) VIDEO(6)

IC702, 703 : TC74HC4051AP
Analog Multiplexer/Demultiplexer



INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

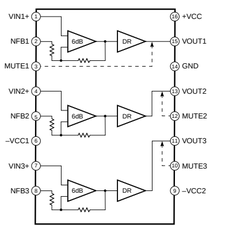
IC752 : TC74HC4053AP
Triple 2-Channel Multiplexer/Demultiplexer



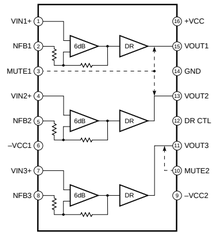
CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

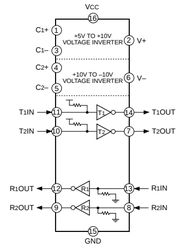
IC701 : LA7108M-TLM
75Ω Video Driver



IC751 : LA7104M
Double Scart Interface



IC951 : HIN202ECBN-T
RS-232 Line Drive/Receiver



Conditions
- INPUT: DVD auto
- PROGRAM: PRO LOGIC DSP

* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

PARTS LIST

■ ELECTRICAL PARTS

■ **WARNING**

Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to last page.
- Chip resistors are listed on page 96.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

C.A.EL.CHP	:	CHIP ALUMI. ELECTROLYTIC CAP
C.CE	:	CERAMIC CAP
C.CE.ARRAY	:	CERAMIC CAP ARRAY
C.CE.CHP	:	CHIP CERAMIC CAP
C.CE.ML	:	MULTILAYER CERAMIC CAP
C.CE.M.CHP	:	CHIP MULTILAYER CERAMIC CAP
C.CE.SAFTY	:	RECOGNIZED CERAMIC CAP
C.CE.TUBLR	:	CERAMIC TUBULAR CAP
C.CE.SMI	:	SEMI CONDUCTIVE CERAMIC CAP
C.EL	:	ELECTROLYTIC CAP
C.MICA	:	MICA CAP
C.ML.FLM	:	MULTILAYER FILM CAP
C.MP	:	METALLIZED PAPER CAP
C.MYLAR	:	MYLAR FILM CAP
C.MYLAR.ML	:	MULTILAYER MYLAR FILM CAP
C.PAPER	:	PAPER CAPACITOR
C.PLS	:	POLYSTYRENE FILM CAP
C.POL	:	POLYESTER FILM CAP
C.POLY	:	POLYETHYLENE FILM CAP
C.PP	:	POLYPROPYLENE FILM CAP
C.TNTL	:	TANTALUM CAP
C.TNTL.CHP	:	CHIP TANTALUM CAP
C.TRIM	:	TRIMMER CAP
CN	:	CONNECTOR
CN.BS.PIN	:	CONNECTOR, BASE PIN
CN.CANNON	:	CONNECTOR, CANNON
CN.DIN	:	CONNECTOR, DIN
CN.FLAT	:	CONNECTOR, FLAT CABLE
CN.POST	:	CONNECTOR, BASE POST
COIL.MX.AM	:	COIL, AM MIX
COIL.AT.FM	:	COIL, FM ANTENNA
COIL.DT.FM	:	COIL, FM DETECT
COIL.MX.FM	:	COIL, FM MIX
COIL.OUTPT	:	OUTPUT COIL
DIOD.ARRAY	:	DIODE ARRAY
DIODE.BRG	:	DIODE BRIDGE
DIODE.CHP	:	CHIP DIODE
DIODE.VAR	:	VARACTOR DIODE
DIOD.Z.CHP	:	CHIP ZENER DIODE
DIODE.ZENR	:	ZENER DIODE
DSCR.CE	:	CERAMIC DISCRIMINATOR
FER.BEAD	:	FERRITE BEADS
FER.CORE	:	FERRITE CORE
FET.CHP	:	CHIP FET
FL.DSPLY	:	FLUORESCENT DISPLAY
FLTR.CE	:	CERAMIC FILTER
FLTR.COMB	:	COMB FILTER MODULE
FLTR.LC.RF	:	LC FILTER ,EMI
GND.MTL	:	GROUND PLATE
GND.TERM	:	GROUND TERMINAL
HOLDER.FUS	:	FUSE HOLDER
IC.PRTCT	:	IC PROTECTOR
JUMPER.CN	:	JUMPER CONNECTOR
JUMPER.TST	:	JUMPER, TEST POINT
L.DTCT	:	LIGHT DETECTING MODULE
L.EMIT	:	LIGHT EMITTING MODULE
LED.DSPLY	:	LED DISPLAY
LED.INFRD	:	LED, INFRARED
MODUL.RF	:	MODULATOR, RF
PHOT.CPL	:	PHOTO COUPLER
PHOT.INTR	:	PHOTO INTERRUPTER
PHOT.RFLCT	:	PHOTO REFLECTOR
PIN.TEST	:	PIN, TEST POINT
PLST.RIVET	:	PLASTIC RIVET
R.ARRAY	:	RESISTOR ARRAY
R.CAR	:	CARBON RESISTOR
R.CAR.CHP	:	CHIP RESISTOR
R.CAR.FP	:	FLAME PROOF CARBON RESISTOR
R.FUS	:	FUSABLE RESISTOR
R.MTL.CHP	:	CHIP METAL FILM RESISTOR
R.MTL.FLM	:	METAL FILM RESISTOR
R.MTL.OXD	:	METAL OXIDE FILM RESISTOR
R.MTL.PLAT	:	METAL PLATE RESISTOR
RSNR.CE	:	CERAMIC RESONATOR
RSNR.CRYS	:	CRYSTAL RESONATOR
R.TW.CEM	:	TWIN CEMENT FIXED RESISTOR
R.WW	:	WIRE WOUND RESISTOR
SCR.BND.HD	:	BIND HEAD B-TITE SCREW
SCR.BW.HD	:	BW HEAD TAPPING SCREW
SCR.CUP	:	CUP TITE SCREW
SCR.TERM	:	SCREW TERMINAL
SCR.TR	:	SCREW, TRANSISTOR
SUPRT.PCB	:	SUPPORT, P.C.B.
SURG.PRTCT	:	SURGE PROTECTOR
SW.TACT	:	TACT SWITCH
SW.LEAF	:	LEAF SWITCH
SW.LEVER	:	LEVER SWITCH
SW.MICRO	:	MICRO SWITCH
SW.PUSH	:	PUSH SWITCH
SW.RT.ENC	:	ROTARY ENCODER
SW.RT.MTR	:	ROTARY SWITCH WITH MOTOR
SW.RT	:	ROTARY SWITCH
SW.SLIDE	:	SLIDE SWITCH
TERM.SP	:	SPEAKER TERMINAL
TERM.WRAP	:	WRAPPING TERMINAL
THRMST.CHP	:	CHIP THERMISTOR
TR.CHP	:	CHIP TRANSISTOR
TR.DGT	:	DIGITAL TRANSISTOR
TR.DGT.CHP	:	CHIP DIGITAL TRANSISTOR
TRANS	:	TRANSFORMER
TRANS.PULS	:	PULSE TRANSFORMER
TRANS.PWR	:	POWER TRANSFORMER ASS'y
TUNER.AM	:	TUNER PACK, AM
TUNER.FM	:	TUNER PACK, FM
TUNER.PK	:	FRONT-END TUNER PACK
VR	:	ROTARY POTENTIOMETER
VR.MTR	:	POTENTIOMETER WITH MOTOR
VR.SW	:	POTENTIOMETER WITH ROTARY SW
VR.SLIDE	:	SLIDE POTENTIOMETER
VR.TRIM	:	TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

P.C.B. DSP

	Schm Ref.	PART NO.	Description	
*		V6600100	P.C.B.	DSP(RT)
*		V6600200	P.C.B.	DSP(BG)
	CB501	V6022800	CN.FBRLINK	1P GP1FA551TZ
	CB502	V6022800	CN.FBRLINK	1P GP1FA551TZ
	CB503	V5478200	CN.PHOT.SN	1P GP1FA551RZ
	CB504	V5478200	CN.PHOT.SN	1P GP1FA551RZ
	CB505	V5478200	CN.PHOT.SN	1P GP1FA551RZ
	CB506	V5478200	CN.PHOT.SN	1P GP1FA551RZ
	CB507	V5478200	CN.PHOT.SN	1P GP1FA551RZ
*	CB508	VQ045800	CN.BS.PIN	29P SE
	C51	US135100	C.CE.CHP	0.1uF 16V
	C52	US135100	C.CE.CHP	0.1uF 16V
	C53	US135100	C.CE.CHP	0.1uF 16V
	C54	US135100	C.CE.CHP	0.1uF 16V
	C55	US135100	C.CE.CHP	0.1uF 16V
	C56	US135100	C.CE.CHP	0.1uF 16V
	C57	US135100	C.CE.CHP	0.1uF 16V
	C58	US135100	C.CE.CHP	0.1uF 16V
	C59	UU147220	C.EL	22uF 25V
	C510	US061220	C.CE.M.CHP	22pF 50V
	C511	US135100	C.CE.CHP	0.1uF 16V
	C512	UU147220	C.EL	22uF 25V
	C513	US061220	C.CE.M.CHP	22pF 50V
	C514	US135100	C.CE.CHP	0.1uF 16V(RT)
	C515	UU147220	C.EL	22uF 25V(RT)
	C517	US061100	C.CE.M.CHP	10pF 50V(RT)
	C518	US044220	C.CE.M.CHP	0.022uF 25V(RT)
	C519	US044220	C.CE.M.CHP	0.022uF 25V(RT)
	C520	US135100	C.CE.CHP	0.1uF 16V
	C521	UU147100	C.EL	10uF 25V
	C522	US135100	C.CE.CHP	0.1uF 16V
	C523	US061100	C.CE.M.CHP	10pF 50V
	C524	US061100	C.CE.M.CHP	10pF 50V
	C525	US061100	C.CE.M.CHP	10pF 50V(RT)
	C526	US044220	C.CE.M.CHP	0.022uF 25V(RT)
*	C527	US061750	C.CE.CHP	75pF 50V(RT)
	C528	US135100	C.CE.CHP	0.1uF 16V
	C529	US061100	C.CE.M.CHP	10pF 50V
	C530	US044220	C.CE.M.CHP	0.022uF 25V
	C531	US061330	C.CE.M.CHP	33pF 50V
	C532	US063100	C.CE.M.CHP	1000pF 50V
	C533	US062220	C.CE.CHP	220pF 50V
	C534	US063100	C.CE.M.CHP	1000pF 50V
	C535	US062220	C.CE.CHP	220pF 50V
	C536	US063100	C.CE.M.CHP	1000pF 50V
	C537	US062220	C.CE.CHP	220pF 50V(RT)
	C538	US063100	C.CE.M.CHP	1000pF 50V(RT)
	C539	US061100	C.CE.M.CHP	10pF 50V(RT)
	C540	UU137470	C.EL	47uF 16V(RT)
	C541	US135100	C.CE.CHP	0.1uF 16V(RT)
	C542	UU137470	C.EL	47uF 16V(RT)
	C543	US135100	C.CE.CHP	0.1uF 16V(RT)
	C544	US135100	C.CE.CHP	0.1uF 16V

* New Parts

Schm Ref.	PART NO.	Description	
C545	US135100	C.CE.CHP	0.1uF 16V
C546	UU128100	C.EL	100uF 10V
C547	UU128100	C.EL	100uF 10V
C548	US135100	C.CE.CHP	0.1uF 16V
C549	US135100	C.CE.CHP	0.1uF 16V
C550	US135100	C.CE.CHP	0.1uF 16V
C551	US135100	C.CE.CHP	0.1uF 16V
C552	US135100	C.CE.CHP	0.1uF 16V
C553	US135100	C.CE.CHP	0.1uF 16V
C554	US064100	C.CE.M.CHP	0.01uF 50V(RT)
C555	VR169200	C.MYLAR.ML	ECQ-V1H474JL3(RT)
C556	US135100	C.CE.CHP	0.1uF 16V
C557	UU128100	C.EL	100uF 10V
C558	UU128100	C.EL	100uF 10V
C559	US135100	C.CE.CHP	0.1uF 16V
C560	UU128100	C.EL	100uF 10V
C561	UU128100	C.EL	100uF 10V
C562	US135100	C.CE.CHP	0.1uF 16V
C563	US135100	C.CE.CHP	0.1uF 16V
C564	US061330	C.CE.M.CHP	33pF 50V
C565	US061330	C.CE.M.CHP	33pF 50V
C566	UU137470	C.EL	47uF 16V
C567	US135100	C.CE.CHP	0.1uF 16V(RT)
C568	US135100	C.CE.CHP	0.1uF 16V(RT)
C569	US135100	C.CE.CHP	0.1uF 16V(RT)
C570	US135100	C.CE.CHP	0.1uF 16V(RT)
C571	US135100	C.CE.CHP	0.1uF 16V(RT)
C572	UU128100	C.EL	100uF 10V(RT)
C573	UU128100	C.EL	100uF 10V(RT)
C574	VR169200	C.MYLAR.ML	ECQ-V1H474JL3(RT)
C575	US135100	C.CE.CHP	0.1uF 16V
C576	UU128100	C.EL	100uF 10V
C577	US061470	C.CE.M.CHP	47pF 50V
C578	US061470	C.CE.M.CHP	47pF 50V
C579	US061470	C.CE.M.CHP	47pF 50V
C580	US061470	C.CE.M.CHP	47pF 50V
C581	US061470	C.CE.M.CHP	47pF 50V
C582	US061470	C.CE.M.CHP	47pF 50V
C583	US061470	C.CE.M.CHP	47pF 50V
C584	UU128100	C.EL	100uF 10V
C585	US135100	C.CE.CHP	0.1uF 16V
C587	US135100	C.CE.CHP	0.1uF 16V
C588	US063470	C.CE.CHP	4700pF 50V
C589	UU128100	C.EL	100uF 10V
C590	UN837470	C.EL	47uF 16V(RT)
C591	US135100	C.CE.CHP	0.1uF 16V(RT)
C592	UU128100	C.EL	100uF 10V(RT)
C593	US135100	C.CE.CHP	0.1uF 16V
C594	US135100	C.CE.CHP	0.1uF 16V
C595	US135100	C.CE.CHP	0.1uF 16V
C596	US135100	C.CE.CHP	0.1uF 16V
C597	US135100	C.CE.CHP	0.1uF 16V
C598	US061470	C.CE.M.CHP	47pF 50V

* New Parts

P.C.B. DSP

	Schm Ref.	PART NO.	Description		
	C599	US135100	C.CE.CHP	0.1uF	16V
	C6	US135100	C.CE.CHP	0.1uF	16V
	C61	US135100	C.CE.CHP	0.1uF	16V(RT)
	C62	US064100	C.CE.M.CHP	0.01uF	50V(RT)
	C63	US061180	C.CE.CHP	18pF	50V(RT)
*	C64	US060200	C.CE.CHP	2pF	50V(RT)
	C65	US135100	C.CE.CHP	0.1uF	16V
	C66	UU128100	C.EL	100uF	10V
	C67	US135100	C.CE.CHP	0.1uF	16V
	C68	US135100	C.CE.CHP	0.1uF	16V
	C69	US135100	C.CE.CHP	0.1uF	16V
	C610	UU128100	C.EL	100uF	10V
	C611	UU128100	C.EL	100uF	10V(RT)
	C612	US064100	C.CE.M.CHP	0.01uF	50V(RT)
	C613	US135100	C.CE.CHP	0.1uF	16V(RT)
	C614	UU128100	C.EL	100uF	10V(RT)
	C615	US135100	C.CE.CHP	0.1uF	16V
	C616	UU137470	C.EL	47uF	16V
	C619	US135100	C.CE.CHP	0.1uF	16V
	C620	UU128100	C.EL	100uF	10V
	C621	UU137470	C.EL	47uF	16V
	C622	US135100	C.CE.CHP	0.1uF	16V
	C623	US135100	C.CE.CHP	0.1uF	16V
	C624	UU137470	C.EL	47uF	16V
	C625	UU137470	C.EL	47uF	16V
	C626	US135100	C.CE.CHP	0.1uF	16V
	C627	US135100	C.CE.CHP	0.1uF	16V
	C628	UU137470	C.EL	47uF	16V
	C629	UU137470	C.EL	47uF	16V
	C630	US135100	C.CE.CHP	0.1uF	16V
	C631	US135100	C.CE.CHP	0.1uF	16V
	C632	US135100	C.CE.CHP	0.1uF	16V
	C633	UU137470	C.EL	47uF	16V
	C634	UU137470	C.EL	47uF	16V
	C635	US135100	C.CE.CHP	0.1uF	16V
	C636	US135100	C.CE.CHP	0.1uF	16V
	C637	UU166220	C.EL	2.2uF	50V
	C638	US135100	C.CE.CHP	0.1uF	16V
	C639	UU128100	C.EL	100uF	10V
	C640	US135100	C.CE.CHP	0.1uF	16V
	C641	UU128100	C.EL	100uF	10V
	C642	UU137220	C.EL	22uF	16V
	C643	UU137220	C.EL	22uF	16V
	C644	UU137220	C.EL	22uF	16V
	C645	US135100	C.CE.CHP	0.1uF	16V
	C646	UU128100	C.EL	100uF	10V
	C647	US135100	C.CE.CHP	0.1uF	16V
	C648	UU128100	C.EL	100uF	10V
	C649	UU137220	C.EL	22uF	16V
	C650	UU137220	C.EL	22uF	16V
	C651	UU137220	C.EL	22uF	16V
	C652	US135100	C.CE.CHP	0.1uF	16V
	C653	UU128100	C.EL	100uF	10V

* New Parts

Schm Ref.	PART NO.	Description		
C654	UU137220	C.EL	22uF	16V
C655	UU137220	C.EL	22uF	16V
C656	UU137220	C.EL	22uF	16V
C657	US135100	C.CE.CHP	0.1uF	16V
C658	UU128100	C.EL	100uF	10V
C659	UU128100	C.EL	100uF	10V
C660	US061470	C.CE.M.CHP	47pF	50V
C661	US061470	C.CE.M.CHP	47pF	50V
C662	US061470	C.CE.M.CHP	47pF	50V
C663	US061470	C.CE.M.CHP	47pF	50V
C664	US061470	C.CE.M.CHP	47pF	50V
C665	US061470	C.CE.M.CHP	47pF	50V
C666	UA652100	C.MYLAR	100pF	50V
C667	UA653330	C.MYLAR	3300pF	50V
C668	US135100	C.CE.CHP	0.1uF	16V
C670	UA653330	C.MYLAR	3300pF	50V
C671	UA652100	C.MYLAR	100pF	50V
C672	UA652100	C.MYLAR	100pF	50V
C673	UA653330	C.MYLAR	3300pF	50V
C674	US135100	C.CE.CHP	0.1uF	16V
C675	UA653150	C.MYLAR	1500pF	50V
C676	UA653150	C.MYLAR	1500pF	50V
C677	UU147100	C.EL	10uF	25V
C678	US135100	C.CE.CHP	0.1uF	16V
C679	US135100	C.CE.CHP	0.1uF	16V
C680	UU147100	C.EL	10uF	25V
C681	UU147100	C.EL	10uF	25V
C682	US135100	C.CE.CHP	0.1uF	16V
C683	US135100	C.CE.CHP	0.1uF	16V
C684	UU147100	C.EL	10uF	25V
C685	UU147100	C.EL	10uF	25V
C686	US135100	C.CE.CHP	0.1uF	16V
C687	US135100	C.CE.CHP	0.1uF	16V
C688	UU147100	C.EL	10uF	25V
C689	UA653820	C.MYLAR	8200pF	50V
C690	Vi715100	C.MYLAR	470pF	50V
C691	Vi715100	C.MYLAR	470pF	50V
C692	UA653820	C.MYLAR	8200pF	50V
C693	UA653820	C.MYLAR	8200pF	50V
C694	Vi715100	C.MYLAR	470pF	50V
C695	UA652100	C.MYLAR	100pF	50V
C696	UA652100	C.MYLAR	100pF	50V
C697	UA652100	C.MYLAR	100pF	50V
C698	UA652100	C.MYLAR	100pF	50V
C699	UU147100	C.EL	10uF	25V
C7	UU147100	C.EL	10uF	25V
C71	Vi715100	C.MYLAR	470pF	50V
C72	Vi715100	C.MYLAR	470pF	50V
C73	UU147100	C.EL	10uF	25V
C74	UU147100	C.EL	10uF	25V
C75	UU147100	C.EL	10uF	25V
C76	UU147100	C.EL	10uF	25V
C77	Vi715100	C.MYLAR	470pF	50V

* New Parts

P.C.B. DSP

Schm Ref.	PART NO.	Description		
C78	Vi715100	C.MYLAR	470pF	50V
C79	UU147100	C.EL	10uF	25V
C710	UU147100	C.EL	10uF	25V
C711	UU147100	C.EL	10uF	25V
C712	UU147100	C.EL	10uF	25V
C713	Vi715100	C.MYLAR	470pF	50V
C714	Vi715100	C.MYLAR	470pF	50V
C715	UU147100	C.EL	10uF	25V
C716	UU147100	C.EL	10uF	25V
C717	US135100	C.CE.CHP	0.1uF	16V
C718	US061470	C.CE.M.CHP	47pF	50V
C719	US061470	C.CE.M.CHP	47pF	50V
C720	US061470	C.CE.M.CHP	47pF	50V
C721	US061470	C.CE.M.CHP	47pF	50V
C722	US061470	C.CE.M.CHP	47pF	50V
C723	UU147100	C.EL	10uF	25V
C724	UU147100	C.EL	10uF	25V
C725	UU147100	C.EL	10uF	25V
C726	UU137220	C.EL	22uF	16V
C727	UU147100	C.EL	10uF	25V
C728	US135100	C.CE.CHP	0.1uF	16V
C729	UU137220	C.EL	22uF	16V
C730	US062470	C.CE.M.CHP	470pF	50V
C731	US063470	C.CE.CHP	4700pF	50V
C732	US135100	C.CE.CHP	0.1uF	16V
C733	UU128100	C.EL	100uF	10V
C735	US135100	C.CE.CHP	0.1uF	16V
C736	UU147100	C.EL	10uF	25V
C737	US135100	C.CE.CHP	0.1uF	16V
C738	UU147100	C.EL	10uF	25V
C739	US135100	C.CE.CHP	0.1uF	16V
C740	UU147100	C.EL	10uF	25V
C741	US135100	C.CE.CHP	0.1uF	16V
C742	UU147100	C.EL	10uF	25V
C743	US135100	C.CE.CHP	0.1uF	16V
C744	UU147100	C.EL	10uF	25V
C745	UU147100	C.EL	10uF	25V
C746	UU147100	C.EL	10uF	25V
C747	UU147100	C.EL	10uF	25V
C748	UU147100	C.EL	10uF	25V
C749	UU147100	C.EL	10uF	25V
C750	US063470	C.CE.CHP	4700pF	50V
D51	VT332900	DIODE	1SS355	
D52	VT332900	DIODE	1SS355	
D53	VT332900	DIODE	1SS355	
D54	VT332900	DIODE	1SS355	
D55	VT332900	DIODE	1SS355	
D56	VT332900	DIODE	1SS355(RT)	
D57	VT332900	DIODE	1SS355(RT)	
D58	VT332900	DIODE	1SS355(RT)	
D59	VT332900	DIODE	1SS355	
D510	VT332900	DIODE	1SS355	
D511	VT332900	DIODE	1SS355	

∗ New Parts

Schm Ref.	PART NO.	Description	
D512	VT332900	DIODE	1SS355
D513	VT332900	DIODE	1SS355
D514	VT332900	DIODE	1SS355
D515	VT707700	C.TRIM	KV1851-TL(RT)
D516	VT332900	DIODE	1SS355
D517	VT332900	DIODE	1SS355
D518	VT332900	DIODE	1SS355
D519	VT332900	DIODE	1SS355
D520	VT332900	DIODE	1SS355
D521	VT332900	DIODE	1SS355
D522	VT332900	DIODE	1SS355
D523	VT332900	DIODE	1SS355
D524	VV220700	DIODE.SHOT	RB501V-40
D525	VV220700	DIODE.SHOT	RB501V-40
D526	VV220700	DIODE.SHOT	RB501V-40
D527	VV220700	DIODE.SHOT	RB501V-40
D528	VV220700	DIODE.SHOT	RB501V-40
D529	VV220700	DIODE.SHOT	RB501V-40
D530	VV220700	DIODE.SHOT	RB501V-40
D531	VV220700	DIODE.SHOT	RB501V-40
D532	VT332900	DIODE	1SS355
D533	VT332900	DIODE	1SS355
D534	VT332900	DIODE	1SS355
D535	VT332900	DIODE	1SS355
D536	VT332900	DIODE	1SS355
D537	VT332900	DIODE	1SS355
D538	VT332900	DIODE	1SS355
IC501	XY580A00	IC	YSS928
IC502	XV077A00	IC	MSM514260C-60JS
IC503	XT958A00	IC	PM4007A(RT)
IC504	XW433A00	IC	CY62256LL(RT)
IC505	XZ003A00	IC	PQ025EZ5MZP 2.5V
IC506	XU965A00	IC	uPC29M33T-E1 3.3V
IC507	XD655A00	IC	TC74HC00AF NAND
IC508	XV495A00	IC	TC74VHCT08AF AND
IC509	XR038A00	IC	NJM2904M OP AMP
IC510	XD660A00	IC	TC74HCU04AF-TP1
IC511	XD660A00	IC	TC74HCU04AF-TP1
IC512	XF291A00	IC	uPC4570G2(RT)
IC513	XD655A00	IC	TC74HC00AF NAND
IC514	XZ002A00	IC	AK4527VQ
IC515	XF291A00	IC	uPC4570G2
IC516	XF291A00	IC	uPC4570G2
IC517	XF291A00	IC	uPC4570G2
IC518	XF291A00	IC	uPC4570G2
IC519	XF291A00	IC	uPC4570G2
IC520	XV058A00	IC	DF1704E
IC521	XV057A00	IC	PCM1704U
IC522	XV057A00	IC	PCM1704U
IC523	XV058A00	IC	DF1704E
IC524	XV057A00	IC	PCM1704U
IC525	XF291A00	IC	uPC4570G2
IC526	XF291A00	IC	uPC4570G2

∗ New Parts

P.C.B. DSP & F AMP

Schm Ref.	PART NO.	Description	
IC527	XF291A00	IC	uPC4570G2
L51	V2726500	COIL	68uH
L52	V2726500	COIL	68uH
L53	V2726500	COIL	68uH
L54	V2726500	COIL	68uH
L55	V2726500	COIL	68uH
L56	VT623200	FLTR.LC	SBP-4930(RT)
L57	V2726500	COIL	68uH(RT)
PJ501	V5715300	JACK.PIN	2P(BG)
* PJ501	V6290500	JACK.PIN	3P(RT)
Q51	iA103700	TR.CHP	2SA1037 Q,R,S(RT)
Q52	VV556400	TR	2SC2412K Q,R,S(RT)
Q53	VV556400	TR	2SC2412K Q,R,S(RT)
Q54	VV556400	TR	2SC2412K Q,R,S(RT)
Q55	iA103700	TR.CHP	2SA1037 Q,R,S(RT)
Q56	VV556400	TR	2SC2412K Q,R,S(RT)
Q57	VV556400	TR	2SC2412K Q,R,S(RT)
Q58	iA103700	TR.CHP	2SA1037 Q,R,S(RT)
Q59	VV655300	TR.DGT	DTA144EKA
Q510	VV655300	TR.DGT	DTA144EKA
Q511	VV655300	TR.DGT	DTA144EKA
Q512	VV655300	TR.DGT	DTA144EKA
Q513	VV655300	TR.DGT	DTA144EKA
Q514	VV655300	TR.DGT	DTA144EKA
Q515	VV655300	TR.DGT	DTA144EKA
Q516	VV655300	TR.DGT	DTA144EKA
Q517	VV655300	TR.DGT	DTA144EKA
Q518	VV655300	TR.DGT	DTA144EKA
Q519	VD303700	TR	2SC3326 A,B
Q520	VD303700	TR	2SC3326 A,B
Q521	VD303700	TR	2SC3326 A,B
Q522	VD303700	TR	2SC3326 A,B
Q523	VD303700	TR	2SC3326 A,B
Q524	VD303700	TR	2SC3326 A,B
Q525	VD303700	TR	2SC3326 A,B
Q526	VD303700	TR	2SC3326 A,B
Q527	VD303700	TR	2SC3326 A,B
R594	HV453100	R.CAR.FP	1Ω 1/4W(RT)
R595	HV453100	R.CAR.FP	1Ω 1/4W(RT)
R596	HV454100	R.CAR.FP	10Ω 1/4W
R599	HV453100	R.CAR.FP	1Ω 1/4W
R6	HV453100	R.CAR.FP	1Ω 1/4W
R61	HV454220	R.CAR.FP	22Ω 1/4W
R62	HV453220	R.CAR.FP	2.2Ω 1/4W
R64	HV454220	R.CAR.FP	22Ω 1/4W
R65	HV453220	R.CAR.FP	2.2Ω 1/4W
R66	HV454100	R.CAR.FP	10Ω 1/4W
R68	HV454220	R.CAR.FP	22Ω 1/4W
R69	VU224000	R.MTL.FLM	0.22Ω 1W J
R610	HV453220	R.CAR.FP	2.2Ω 1/4W
R611	HV453220	R.CAR.FP	2.2Ω 1/4W
R612	HV453220	R.CAR.FP	2.2Ω 1/4W
XL501	V3625700	RSNR.CRYS	24.576MHz

* New Parts

Schm Ref.	PART NO.	Description	
XL502	VT928600	RSNR.CRYS	18.432MHz(RT)
*	V6602700	P.C.B.	FAMP(RT)
*	V6602800	P.C.B.	FAMP(B)
*	V6602900	P.C.B.	FAMP(G)
CB311	VG879900	CN.BS.PIN	2P(RTB)
CB313	VP206500	HOLDER.FUS	EYF-52BCT(BG)
CB313	VS996100	HOLDER.FUS	EYF64BC(RT)
CB314	VS996100	HOLDER.FUS	EYF64BC(RT)
CB315	VP206500	HOLDER.FUS	EYF-52BCT(BG)
CB316	LA002410	TERM.WRAP	2P
CB317	VP206500	HOLDER.FUS	EYF-52BCT(RTG)
CB318	VP206500	HOLDER.FUS	EYF-52BCT(RTG)
CB319	LA002410	TERM.WRAP	2P(RT)
CB351	VD004500	CN.BS.PIN	2P
CB352	VL845000	CN.BS.PIN	6P
CB353	VP206500	HOLDER.FUS	EYF-52BCT
CB354	VP206500	HOLDER.FUS	EYF-52BCT
CB355	VP206500	HOLDER.FUS	EYF-52BCT
CB356	VP206500	HOLDER.FUS	EYF-52BCT
CB357	VD004500	CN.BS.PIN	2P
* CB358	LA002320	TERM.WRAP	3P
* CB359	LA002320	TERM.WRAP	3P
* CB360	LA002000	TERM.WRAP	2P
* CB361	VD005000	CN.BS.PIN	7P
* CB362	VD004700	CN.BS.PIN	4P
* CB363	VD005000	CN.BS.PIN	7P
C311	UU147100	C.EL	10uF 25V(BG)
* C311	UU148100	C.EL	100uF 25V(RT)
C312	UU147100	C.EL	10uF 25V(RT)
C313	UU167100	C.EL	10uF 50V(RT)
C314	UU197470	C.EL	47uF 100V(RT)
C315	Vi716700	C.MYLAR	0.01uF 50V(BG)
C316	Vi716700	C.MYLAR	0.01uF 50V(RT)
C317	Vi716700	C.MYLAR	0.01uF 50V(RT)
⚠* C318	V6185300	C.CE.SAFTY	0.01uF 275V
C351	UU167100	C.EL	10uF 50V
C352	UU167100	C.EL	10uF 50V
* C353	UU157330	C.EL	33uF 35V
* C354	UU157330	C.EL	33uF 35V
C355	UU167100	C.EL	10uF 50V
C356	UU167100	C.EL	10uF 50V
C357	VF467000	C.CE.TUBLR	1000pF 50V
C358	UU137220	C.EL	22uF 16V
C359	VF466800	C.CE.TUBLR	100pF 50V
C360	VS696700	C.CE	33pF 500V
C361	UP652100	C.POL	100pF 100V
* C362	UU148100	C.EL	100uF 25V
C363	UU137470	C.EL	47uF 16V
C364	UU137220	C.EL	22uF 16V
C365	VF466800	C.CE.TUBLR	100pF 50V

* New Parts

P.C.B. F AMP

	Schm Ref.	PART NO.	Description		
	C366	VS696700	C.CE	33pF	500V
	C367	UP652100	C.POL	100pF	100V
*	C368	UU148100	C.EL	100uF	25V
	C369	UU137470	C.EL	47uF	16V
	C370	VR325000	C.MYLAR	100pF	100V
	C371	UA654100	C.MYLAR	0.01uF	50V
	C372	UU138100	C.EL	100uF	16V
	C373	VR325000	C.MYLAR	100pF	100V
	C374	VR325000	C.MYLAR	100pF	100V
	C375	UA654100	C.MYLAR	0.01uF	50V
	C376	UU138100	C.EL	100uF	16V
	C377	VR325000	C.MYLAR	100pF	100V
	C378	UA654470	C.MYLAR	0.047uF	50V
	C379	UA654470	C.MYLAR	0.047uF	50V
*	C380	UU159100	C.EL	1000uF	35V
	C381	UU168100	C.EL	100uF	50V
	C382	UU167100	C.EL	10uF	50V
	C383	UU147100	C.EL	10uF	25V
*	C384	VL232400	C.EL	3300uF	35V
*	C385	VL232400	C.EL	3300uF	35V
	C386	UU139680	C.EL	6800uF	16V
	C387	UU13A100	C.EL	10000uF	16V
	C388	UU13A100	C.EL	10000uF	16V
	C389	UU139680	C.EL	6800uF	16V
	C390	UU147100	C.EL	10uF	25V
	C391	UU147100	C.EL	10uF	25V
⚠	C392	VR168300	C.MYLAR.ML	ECQ-V1H104JL3	
⚠	C393	VR168300	C.MYLAR.ML	ECQ-V1H104JL3	
	C394	VJ599100	C.CE.TUBLR	0.1uF	50V
	C395	VR168300	C.MYLAR.ML	ECQ-V1H104JL3	
	C396	VR168300	C.MYLAR.ML	ECQ-V1H104JL3	
	C397	UU147100	C.EL	10uF	25V
	C398	UU137470	C.EL	47uF	16V
	C399	UU137470	C.EL	47uF	16V
	C400	UU166100	C.EL	1uF	50V
	C401	UU166100	C.EL	1uF	50V
	C402	UU137470	C.EL	47uF	16V
	C403	UU139100	C.EL	1000uF	16V
	C404	UU139100	C.EL	1000uF	16V
	D311	iF004600	DIODE	1SS133	
	D312	iF004600	DIODE	1SS133(RT)	
	D313	VU264100	DIODE	1SR139-400(RT)	
⚠	D314	VR253700	DIODE.BRG	S1NB20	1.0A 200V
	D315	VG439900	DIODE.ZENR	MTZJ11B	11V(RT)
*	D351	VG442800	DIODE.ZENR	MTZJ27A	27V
*	D352	VG442400	DIODE.ZENR	MTZJ24A	24V
	D353	iF004600	DIODE	1SS133	
	D354	iF004600	DIODE	1SS133	
	D355	iF004600	DIODE	1SS133	
	D356	iF004600	DIODE	1SS133	
	D357	VG442600	DIODE.ZENR	MTZJ24C	24V
*	D358	VG440800	DIODE.ZENR	MTZJ15B	15V(RT)
	D359	iF004600	DIODE	1SS133	

* New Parts

	Schm Ref.	PART NO.	Description		
⚠	D360	VN011300	DIODE.BRG	D3SBA20	4A 200V
⚠	D361	VN011300	DIODE.BRG	D3SBA20	4A 200V
⚠	F311	KB000780	FUSE	T5.0A	250V(BG)
⚠	F311	KB001390	FUSE	10A	250V(RT)
⚠	F312	KB000780	FUSE	T5.0A	250V(RT)
⚠	F312	VT942900	FUSE	TH2.5A	250V(G)
⚠*	F351	KB003240	FUSE	T5.0A	250V
⚠*	F352	KB003240	FUSE	T5.0A	250V
	G351	VR463400	TERM.GND	D3.5	TP00385
	IC351	iG092000	IC	M5220L	
⚠	IC352	XJ607A00	IC	NJM7805FA 5V	
⚠	IC353	XE436A00	IC	NJM79M05FA	
⚠	IC354	XJ607A00	IC	NJM7805FA 5V	
⚠	IC355	XJ608A00	IC	NJM7812FA	
⚠	IC356	XD343A00	IC	NJM79M12FA	
*	L351	GD900470	COIL	1.5uH	
*	L352	GD900470	COIL	1.5uH	
	PN301	V3750100	PIN	L=50	
	PN302	V3750100	PIN	L=50	
	Q311	VD488500	TR.DGT	DTC143XS	
⚠	Q312	VR510800	TR	2SD2396 J,K(RT)	
⚠	Q313	VR510800	TR	2SD2396 J,K(RT)	
	Q314	iE102620	FET	2SK246 Y(RT)	
	Q315	iC174020	TR	2SC1740S R,S	
⚠	Q351	VP872700	TR	2SC4488 S,T	
⚠	Q352	VP872600	TR	2SA1708 S,T	
⚠	Q353	VP872700	TR	2SC4488 S,T	
⚠	Q354	VK174800	TR	2SC4512 O,P,Y	
⚠	Q355	VP872600	TR	2SA1708 S,T	
	Q356	iC224030	TR	2SC2240 GR,BL	
⚠	Q357	VK174800	TR	2SC4512 O,P,Y	
⚠	Q358	VP872700	TR	2SC4488 S,T	
⚠	Q359	VK174800	TR	2SC4512 O,P,Y	
⚠	Q360	VP872600	TR	2SA1708 S,T	
	Q361	iC224030	TR	2SC2240 GR,BL	
⚠	Q362	VK174800	TR	2SC4512 O,P,Y	
	Q363	iC224030	TR	2SC2240 GR,BL	
	Q364	iC224030	TR	2SC2240 GR,BL	
⚠*	Q365	V6678600	TR	2SB1375	
	Q366	iC1815I0	TR	2SC1815 Y	
	R351	HV753470	R.CAR.FP	4.7Ω	1/4W
	R354	HV753470	R.CAR.FP	4.7Ω	1/4W
	R361	HV755220	R.CAR.FP	220Ω	1/4W
	R367	HV755220	R.CAR.FP	220Ω	1/4W
⚠	R369	HV755330	R.CAR.FP	330Ω	1/4W
⚠*	R370	VE869300	R.MTL.OXD	0.1Ω	2W
⚠	R371	HV756150	R.CAR.FP	1.5KΩ	1/4W
⚠	R374	HV756220	R.CAR.FP	2.2KΩ	1/4W
⚠	R375	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R376	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R378	HV756150	R.CAR.FP	1.5KΩ	1/4W
⚠	R379	HV755330	R.CAR.FP	330Ω	1/4W
⚠*	R380	VE869300	R.MTL.OXD	0.1Ω	2W

* New Parts

P.C.B. F AMP & MAIN

	Schm Ref.	PART NO.	Description		
⚠	R382	HV756220	R.CAR.FP	2.2KΩ	1/4W
⚠	R384	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R385	HV755100	R.CAR.FP	100Ω	1/4W
	R389	HV754100	R.CAR.FP	10Ω	1/4W
	R390	HV753470	R.CAR.FP	4.7Ω	1/4W
	R391	HV753470	R.CAR.FP	4.7Ω	1/4W
	R393	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R394	HV753470	R.CAR.FP	4.7Ω	1/4W
	R395	HV756330	R.CAR.FP	3.3KΩ	1/4W
	R396	HV756470	R.CAR.FP	4.7KΩ	1/4W
	R400	VP939800	R.MTL.OXD	10Ω	1W
⚠*	R402	VC756300	R.MTL.OXD	10Ω	2W
⚠*	R403	VC756300	R.MTL.OXD	10Ω	2W
⚠	R404	VP939900	R.MTL.OXD	15Ω	1W
⚠	R405	VP939900	R.MTL.OXD	15Ω	1W
⚠*	R411	VC756300	R.MTL.OXD	10Ω	2W
⚠	R412	VP939500	R.MTL.FLM	1Ω	1W
⚠	R413	VP939900	R.MTL.OXD	15Ω	1W
⚠	R414	VP939500	R.MTL.FLM	1Ω	1W
⚠*	RY311	V6434900	RELAY	DC DLS12D1-O(M)	
	ST311	BB071360	SCR.TERM	8.3x13	
⚠	T311	XZ229A00	TRANS.PWR	(RT)	
⚠	T311	XZ231A00	TRANS.PWR	(BG)	
⚠*	TE311	V5867900	AC OUTLET	3P(RT)	
⚠	TE311	VU543300	OUTLET.AC	1P(B)	
⚠	TE311	VV119000	OUTLET.AC	3P(G)	
⚠*	TE312	V6561200	AC INLET	2P M1908-G(B)	
	TH351	VM842300	POSISTOR	PTH9M04 BF/80°C	
*		V6604100	P.C.B.	MAIN(RT)	
*		V6604700	P.C.B.	MAIN(BG)	
	CB1	VM973500	CN.BS.PIN	17P	
*	CB3	LA002000	TERM.WRAP	2P	
*	CB4	LB919040	CN.BS.PIN	4P	
*	CB5	LA002320	TERM.WRAP	3P	
*	CB6	LB919040	CN.BS.PIN	4P	
	C1	UU118100	C.EL	100uF	6.3V
	C2	UU167100	C.EL	10uF	50V
	C3	VJ599100	C.CE.TUBLR	0.1uF	50V
	C4	UU167100	C.EL	10uF	50V
*	C5	UU197100	C.EL	10uF	100V
*	C6	UU197100	C.EL	10uF	100V
	C7	UU197470	C.EL	47uF	100V
	C9	VF467300	C.CE.TUBLR	0.01uF	16V
	C11	UP652100	C.POL	100pF	100V
	C12	UP652100	C.POL	100pF	100V
	C13	UA654100	C.MYLAR	0.01uF	50V
*	C14	UU197100	C.EL	10uF	100V
	C15	UP652100	C.POL	100pF	100V
*	C16	UU197100	C.EL	10uF	100V
	C17	UP652100	C.POL	100pF	100V

* New Parts

	Schm Ref.	PART NO.	Description		
	C18	VK533900	C.PP	100pF	200V
*	C19	UP653120	C.POL	1200pF	100V
	C20	UU197470	C.EL	47uF	100V
	C21	UA653330	C.MYLAR	3300pF	50V
	C22	UA654100	C.MYLAR	0.01uF	50V
	C23	UP652100	C.POL	100pF	100V
	C24	VM645500	C.PP	15uF	200V
	C25	UU147100	C.EL	10uF	25V
	C26	UU138100	C.EL	100uF	16V
	C27	UU166470	C.EL	4.7uF	50V
	C28	UU165100	C.EL	0.1uF	50V
	C29	UP652100	C.POL	100pF	100V
*	C30	UU157330	C.EL	33uF	35V
	C31	UU167100	C.EL	10uF	50V
	C32	VK533900	C.PP	100pF	200V
*	C33	UU148100	C.EL	100uF	25V
	C34	VK533900	C.PP	100pF	200V
*	C35	UP653120	C.POL	1200pF	100V
	C36	UU197470	C.EL	47uF	100V
	C37	UA653330	C.MYLAR	3300pF	50V
	C38	UA654100	C.MYLAR	0.01uF	50V
	C39	UP652100	C.POL	100pF	100V
	C40	VM645500	C.PP	15uF	200V
	C41	UU147100	C.EL	10uF	25V
	C42	UU138100	C.EL	100uF	16V
	C43	UU166470	C.EL	4.7uF	50V
	C44	UU165100	C.EL	0.1uF	50V
	C45	UP652100	C.POL	100pF	100V
*	C46	UU157330	C.EL	33uF	35V
	C47	UU167100	C.EL	10uF	50V
	C48	VK533900	C.PP	100pF	200V
*	C49	UU148100	C.EL	100uF	25V
	C50	UU197470	C.EL	47uF	100V
*	C51	UP653120	C.POL	1200pF	100V
	C52	UA653330	C.MYLAR	3300pF	50V
	C53	UP652100	C.POL	100pF	100V
	C54	VR516400	C.CE	15pF	500V
	C55	UU147100	C.EL	10uF	25V
	C56	UU138100	C.EL	100uF	16V
	C57	UU165100	C.EL	0.1uF	50V
	C58	UP652100	C.POL	100pF	100V
*	C59	UU157330	C.EL	33uF	35V
	C60	UU167100	C.EL	10uF	50V
	C61	VK533900	C.PP	100pF	200V
*	C62	UU148100	C.EL	100uF	25V
	C63	UU197470	C.EL	47uF	100V
*	C64	UP653120	C.POL	1200pF	100V
	C65	UA653330	C.MYLAR	3300pF	50V
	C66	UP652100	C.POL	100pF	100V
	C67	VR516400	C.CE	15pF	500V
	C68	UU147100	C.EL	10uF	25V
	C69	UU138100	C.EL	100uF	16V
	C70	UU165100	C.EL	0.1uF	50V

* New Parts

P.C.B. MAIN

	Schm Ref.	PART NO.	Description		
	C71	UP652100	C.POL	100pF	100V
*	C72	UU157330	C.EL	33uF	35V
	C73	UU167100	C.EL	10uF	50V
	C74	VK533900	C.PP	100pF	200V
*	C75	UU148100	C.EL	100uF	25V
	C76	VK533900	C.PP	100pF	200V
*	C77	UP653120	C.POL	1200pF	100V
	C78	UU197470	C.EL	47uF	100V
	C79	UA653330	C.MYLAR	3300pF	50V
	C80	UP652100	C.POL	100pF	100V
	C81	VR516400	C.CE	15pF	500V
	C82	UA654100	C.MYLAR	0.01uF	50V
	C83	UU147100	C.EL	10uF	25V
	C84	UU166470	C.EL	4.7uF	50V
	C85	UU138100	C.EL	100uF	16V
	C86	UU165100	C.EL	0.1uF	50V
	C87	UP652100	C.POL	100pF	100V
*	C88	UU157330	C.EL	33uF	35V
	C89	UU167100	C.EL	10uF	50V
	C90	VK533900	C.PP	100pF	200V
*	C91	UU148100	C.EL	100uF	25V
	C92	VK533900	C.PP	100pF	200V
*	C93	UP653120	C.POL	1200pF	100V
	C94	UU197470	C.EL	47uF	100V
	C95	UA653330	C.MYLAR	3300pF	50V
	C96	UA654100	C.MYLAR	0.01uF	50V
	C97	UP652100	C.POL	100pF	100V
	C98	VR516400	C.CE	15pF	500V
	C99	UU147100	C.EL	10uF	25V
	C100	UU138100	C.EL	100uF	16V
	C101	UU166470	C.EL	4.7uF	50V
	C102	UU165100	C.EL	0.1uF	50V
	C103	UP652100	C.POL	100pF	100V
*	C104	UU157330	C.EL	33uF	35V
	C105	UU167100	C.EL	10uF	50V
	C106	VK533900	C.PP	100pF	200V
*	C107	UU148100	C.EL	100uF	25V
*	C108	UU166330	C.EL	3.3uF	50V
	C109	VR169000	C.MYLAR.ML	ECQ-V1H334JL3	
*	C110	UU138330	C.EL	330uF	16V
	C111	UA654470	C.MYLAR	0.047uF	50V
	C112	VR169000	C.MYLAR.ML	ECQ-V1H334JL3	
*	C113	UU138330	C.EL	330uF	16V
	C114	UA654470	C.MYLAR	0.047uF	50V
	C115	VK533900	C.PP	100pF	200V
	C116	UA654100	C.MYLAR	0.01uF	50V
	C117	UU166470	C.EL	4.7uF	50V
*	C118	UU138330	C.EL	330uF	16V
	C119	UA654470	C.MYLAR	0.047uF	50V
	C120	VK533900	C.PP	100pF	200V
	C121	UA654100	C.MYLAR	0.01uF	50V
	C122	UU166470	C.EL	4.7uF	50V
*	C123	UU138330	C.EL	330uF	16V

* New Parts

	Schm Ref.	PART NO.	Description		
	C124	UA654470	C.MYLAR	0.047uF	50V
*	C125	UU138330	C.EL	330uF	16V
	C126	UA654470	C.MYLAR	0.047uF	50V
*	C127	UU138330	C.EL	330uF	16V
	C128	UA654470	C.MYLAR	0.047uF	50V
*	C129	UU197100	C.EL	10uF	100V
*	C130	UU197100	C.EL	10uF	100V
*	C131	UU197100	C.EL	10uF	100V
*	C132	UU197100	C.EL	10uF	100V
*	C133	UU197100	C.EL	10uF	100V
*	C134	UU197100	C.EL	10uF	100V
*	C135	UU197100	C.EL	10uF	100V
*	C136	UU197100	C.EL	10uF	100V
*	C137	UU197100	C.EL	10uF	100V
*	C138	UU197100	C.EL	10uF	100V
	C139	UU128100	C.EL	100uF	10V
*	C140	UU197100	C.EL	10uF	100V
*	C141	UU197100	C.EL	10uF	100V
*	C142	Vi862100	C.POL.MTL	0.047uF	100V
*	C143	V6512400	C.EL	22000uF	71V
*	C144	Vi862100	C.POL.MTL	0.047uF	100V
*	C145	V6512400	C.EL	22000uF	71V
*	C146	Vi862200	C.POLY	0.1uF	100V
	C147	UA654100	C.MYLAR	0.01uF	50V
	C148	UA654100	C.MYLAR	0.01uF	50V
	C149	UA654100	C.MYLAR	0.01uF	50V
	C150	UA654100	C.MYLAR	0.01uF	50V
	C151	UA654100	C.MYLAR	0.01uF	50V
	C152	UA654100	C.MYLAR	0.01uF	50V
	C153	UA654100	C.MYLAR	0.01uF	50V
	C154	UA654100	C.MYLAR	0.01uF	50V
	C155	UA654100	C.MYLAR	0.01uF	50V
	C156	UA654100	C.MYLAR	0.01uF	50V
	C157	UA654100	C.MYLAR	0.01uF	50V
	C158	UA654100	C.MYLAR	0.01uF	50V
	C159	UA654100	C.MYLAR	0.01uF	50V
	C160	UA654100	C.MYLAR	0.01uF	50V
	C161	UA654100	C.MYLAR	0.01uF	50V
	C162	UA654100	C.MYLAR	0.01uF	50V
	C163	UA654100	C.MYLAR	0.01uF	50V
	C164	UA654100	C.MYLAR	0.01uF	50V
	C165	UA654100	C.MYLAR	0.01uF	50V
	C166	UA654100	C.MYLAR	0.01uF	50V
	C167	UU128100	C.EL	100uF	10V
	C168	UU128100	C.EL	100uF	10V
	D1	iF004600	DIODE	1SS133	
	D2	iF004600	DIODE	1SS133	
	D3	iF004600	DIODE	1SS133	
	D4	VG443500	DIODE.ZENR	MTZJ30D	30V
	D5	iF004600	DIODE	1SS133	
	D6	VG442100	DIODE.ZENR	MTZJ22B	22V
	D7	VG442100	DIODE.ZENR	MTZJ22B	22V
	D8	iF004600	DIODE	1SS133	

* New Parts

P.C.B. MAIN

	Schm Ref.	PART NO.	Description	
	D9	iF004600	DIODE	1SS133
	D10	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D11	VC398400	DIODE	MA185
	D12	iF004600	DIODE	1SS133
	D13	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D14	VC398400	DIODE	MA185
	D15	iF004600	DIODE	1SS133
	D16	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D17	VC398400	DIODE	MA185
	D18	iF004600	DIODE	1SS133
	D19	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D20	VC398400	DIODE	MA185
⚠*	D21	VC398400	DIODE	MA185
	D22	iF004600	DIODE	1SS133
⚠*	D23	VC398400	DIODE	MA185
	D24	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D25	VC398400	DIODE	MA185
	D26	iF004600	DIODE	1SS133
⚠*	D27	VC398400	DIODE	MA185
	D28	VG440100	DIODE.ZENR	MTZJ12A 12V
⚠*	D29	VC398400	DIODE	MA185
⚠	D30	VU264100	DIODE	1SR139-400
⚠*	D31	VC398400	DIODE	MA185
⚠*	D32	VC398400	DIODE	MA185
⚠	D33	VU264100	DIODE	1SR139-400
⚠*	D34	VC398400	DIODE	MA185
⚠*	D35	VC398400	DIODE	MA185
⚠	D36	VU264100	DIODE	1SR139-400
⚠*	D37	VC398400	DIODE	MA185
⚠*	D38	VC398400	DIODE	MA185
⚠	D39	VU264100	DIODE	1SR139-400
⚠*	D40	VC398400	DIODE	MA185
⚠*	D41	VC398400	DIODE	MA185
⚠	D42	VU264100	DIODE	1SR139-400
⚠*	D43	VC398400	DIODE	MA185
⚠*	D44	VC398400	DIODE	MA185
⚠	D45	VU264100	DIODE	1SR139-400
⚠*	D46	VC398400	DIODE	MA185
⚠*	D47	VC398400	DIODE	MA185
*	D48	VC398400	DIODE	MA185
*	D49	VC398400	DIODE	MA185
	D51	iF004600	DIODE	1SS133
	D52	iF004600	DIODE	1SS133
⚠*	D53	VZ755200	DIODE.BRG	D15XB20 15A 200V
	D54	iF004600	DIODE	1SS133
	D55	iF004600	DIODE	1SS133
	D56	VG437200	DIODE.ZENR	MTZJ4.7C 4.7V
	D57	VG437200	DIODE.ZENR	MTZJ4.7C 4.7V
⚠*	D58	VC398400	DIODE	MA185
⚠*	D59	VC398400	DIODE	MA185
⚠*	D60	VC398400	DIODE	MA185
	D61	iF004600	DIODE	1SS133
	D62	iF004600	DIODE	1SS133

* New Parts

	Schm Ref.	PART NO.	Description	
	D63	iF004600	DIODE	1SS133
	D64	iF004600	DIODE	1SS133
	D65	iF004600	DIODE	1SS133
	D66	iF004600	DIODE	1SS133
	G1	VR463400	TERM.GND	D3.5 TP00385
	G2	VR463400	TERM.GND	D3.5 TP00385
*	HS1	VY843300	HEAT.SINK	
*	L1	VC664100	COIL	0.95uH
*	L2	VC664100	COIL	0.95uH
*	L3	GD900470	COIL	1.5uH
*	L4	GD900470	COIL	1.5uH
*	L5	GD900470	COIL	1.5uH
*	L6	GD900470	COIL	1.5uH
	PN1	V3750100	PIN	L=50
	Q1	iC174020	TR	2SC1740S R,S
*	Q2	VK165500	TR.DGT	DTC123JS TP
*	Q3	V6678600	TR	2SB1375
*	Q4	VT254500	TR.DGT	DTC143ZS
*	Q5	VT254500	TR.DGT	DTC143ZS
⚠	Q6	VR510800	TR	2SD2396 J,K
	Q7	VP883100	TR	2SC1890A D,E
	Q8	VP883000	TR	2SA893A D,E
⚠	Q9	VS883300	TR	2SB1565 E,F
⚠	Q10	iA1015I0	TR	2SA1015 Y
⚠	Q11	iA1015I0	TR	2SA1015 Y
⚠	Q12	VE198700	TR	2SA1145 O,Y
⚠	Q13	iC224030	TR	2SC2240 GR,BL
⚠	Q14	iC224030	TR	2SC2240 GR,BL
⚠	Q15	iC224030	TR	2SC2240 GR,BL
⚠	Q16	iC224030	TR	2SC2240 GR,BL
⚠	Q17	iA1015I0	TR	2SA1015 Y
⚠	Q18	iA1015I0	TR	2SA1015 Y
⚠	Q19	VE198700	TR	2SA1145 O,Y
⚠	Q20	iC224030	TR	2SC2240 GR,BL
⚠	Q21	iC224030	TR	2SC2240 GR,BL
⚠	Q22	iC224030	TR	2SC2240 GR,BL
⚠	Q23	iC224030	TR	2SC2240 GR,BL
⚠	Q24	iA1015I0	TR	2SA1015 Y
⚠	Q25	iA1015I0	TR	2SA1015 Y
⚠	Q26	VE198700	TR	2SA1145 O,Y
⚠	Q27	iC224030	TR	2SC2240 GR,BL
⚠	Q28	iC224030	TR	2SC2240 GR,BL
⚠	Q29	iC224030	TR	2SC2240 GR,BL
⚠	Q30	iC224030	TR	2SC2240 GR,BL
⚠	Q31	iA1015I0	TR	2SA1015 Y
⚠	Q32	iA1015I0	TR	2SA1015 Y
⚠	Q33	VE198700	TR	2SA1145 O,Y
⚠	Q34	iC224030	TR	2SC2240 GR,BL
⚠	Q35	iC224030	TR	2SC2240 GR,BL
⚠	Q36	iC224030	TR	2SC2240 GR,BL
⚠	Q37	iC224030	TR	2SC2240 GR,BL
⚠	Q38	iA1015I0	TR	2SA1015 Y
⚠	Q39	iA1015I0	TR	2SA1015 Y

* New Parts

P.C.B. MAIN

	Schm Ref.	PART NO.	Description		
⚠	Q40	VE198700	TR	2SA1145 O,Y	
⚠	Q41	iC224030	TR	2SC2240 GR,BL	
⚠	Q42	iC224030	TR	2SC2240 GR,BL	
⚠	Q43	iC224030	TR	2SC2240 GR,BL	
⚠	Q44	iC224030	TR	2SC2240 GR,BL	
⚠	Q45	iA1015I0	TR	2SA1015 Y	
⚠	Q46	iA1015I0	TR	2SA1015 Y	
⚠	Q47	VE198700	TR	2SA1145 O,Y	
⚠	Q48	iC224030	TR	2SC2240 GR,BL	
⚠	Q49	iC224030	TR	2SC2240 GR,BL	
⚠	Q50	iC224030	TR	2SC2240 GR,BL	
⚠	Q51	iC224030	TR	2SC2240 GR,BL	
⚠	Q52	VE198800	TR	2SC2705 O,Y	
⚠	Q53	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q54	VY705000	TR	2SC5200 R,O	
⚠	Q55	iC224030	TR	2SC2240 GR,BL	
⚠	Q57	VE198700	TR	2SA1145 O,Y	
⚠#	Q58	VY705000	TR	2SC5200 R,O	
⚠	Q59	VE198800	TR	2SC2705 O,Y	
⚠	Q60	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q61	VY705000	TR	2SC5200 R,O	
⚠	Q62	iC224030	TR	2SC2240 GR,BL	
⚠	Q64	VE198700	TR	2SA1145 O,Y	
⚠#	Q65	VY705000	TR	2SC5200 R,O	
⚠	Q66	VE198800	TR	2SC2705 O,Y	
⚠	Q67	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q68	V6063900	TR	2SC5358 O,R	
⚠	Q69	iC224030	TR	2SC2240 GR,BL	
⚠	Q71	VE198700	TR	2SA1145 O,Y	
⚠#	Q72	V6063900	TR	2SC5358 O,R	
⚠	Q73	VE198800	TR	2SC2705 O,Y	
⚠	Q74	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q75	V6063900	TR	2SC5358 O,R	
⚠	Q76	iC224030	TR	2SC2240 GR,BL	
⚠	Q78	VE198700	TR	2SA1145 O,Y	
⚠#	Q79	V6063900	TR	2SC5358 O,R	
⚠	Q80	VE198800	TR	2SC2705 O,Y	
⚠	Q81	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q82	V6063900	TR	2SC5358 O,R	
⚠	Q83	iC224030	TR	2SC2240 GR,BL	
⚠	Q85	VE198700	TR	2SA1145 O,Y	
⚠#	Q86	V6063900	TR	2SC5358 O,R	
⚠	Q87	VE198800	TR	2SC2705 O,Y	
⚠	Q88	VQ116600	TR.PAIR	2SA1837/C4793 O,Y	
⚠#	Q89	V6063900	TR	2SC5358 O,R	
⚠	Q90	iC224030	TR	2SC2240 GR,BL	
⚠	Q92	VE198700	TR	2SA1145 O,Y	
⚠#	Q93	V6063900	TR	2SC5358 O,R	
⚠	Q94	iA097030	TR	2SA970 GR,BL	
⚠*	R1	VP940500	R.MTL.OXD	150Ω 1W	
⚠*	R4	VP940500	R.MTL.OXD	150Ω 1W	
⚠	R5	HV755220	R.CAR.FP	220Ω 1/4W	
⚠	R6	HV755220	R.CAR.FP	220Ω 1/4W	

∗ New Parts

	Schm Ref.	PART NO.	Description		
⚠	R7	HV754100	R.CAR.FP	10Ω	1/4W
	R8	HV756330	R.CAR.FP	3.3KΩ	1/4W
	R9	HV755100	R.CAR.FP	100Ω	1/4W
	R10	HV755100	R.CAR.FP	100Ω	1/4W
	R13	HV755100	R.CAR.FP	100Ω	1/4W
	R14	HV755100	R.CAR.FP	100Ω	1/4W
	R15	HV756470	R.CAR.FP	4.7KΩ	1/4W
⚠	R16	HV754100	R.CAR.FP	10Ω	1/4W
	R17	VP940400	R.MTL.OXD	100Ω	1W
⚠	R32	HV754470	R.CAR.FP	47Ω	1/4W
⚠	R33	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R34	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R35	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R37	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R42	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R45	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R50	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R52	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R53	HV754470	R.CAR.FP	47Ω	1/4W
⚠	R54	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R55	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R56	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R58	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R63	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R66	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R71	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R73	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R74	HV754470	R.CAR.FP	47Ω	1/4W
⚠	R75	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R76	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R77	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R79	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R84	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R87	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R92	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R94	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R95	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R96	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R97	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R99	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R104	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R107	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R112	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R114	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R116	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R117	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R118	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R120	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R125	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R128	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R133	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R134	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R137	HV755680	R.CAR.FP	680Ω	1/4W

∗ New Parts

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

P.C.B. MAIN & FUNCTION

	Schm Ref.	PART NO.	Description		
⚠	R138	HV755680	R.CAR.FP	680Ω	1/4W
⚠	R139	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R141	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R146	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R150	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R154	HV755120	R.CAR.FP	120Ω	1/4W
⚠	R155	HV756680	R.CAR.FP	6.8KΩ	1/4W
⚠	R159	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R161	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R162	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R164	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R165	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R169	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R170	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R171	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R172	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R173	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R175	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R177	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R178	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R180	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R181	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R185	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R186	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R187	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R188	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R189	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R191	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R192	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R193	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R194	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R195	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R199	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R200	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R201	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R202	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R203	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R205	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R206	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R207	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R208	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R209	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R213	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R214	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R215	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R216	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R217	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R219	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R220	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R221	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R222	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R223	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R227	HV753470	R.CAR.FP	4.7Ω	1/4W

* New Parts

	Schm Ref.	PART NO.	Description		
⚠	R228	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R229	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R230	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R231	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R233	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R234	HV756120	R.CAR.FP	1.2KΩ	1/4W
⚠	R235	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R236	HV755150	R.CAR.FP	150Ω	1/4W
⚠	R237	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R241	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R242	HV755470	R.CAR.FP	470Ω	1/4W
⚠	R243	HV753470	R.CAR.FP	4.7Ω	1/4W
⚠	R244	HV755100	R.CAR.FP	100Ω	1/4W
⚠	R245	HV755560	R.CAR.FP	560Ω	1/4W
⚠	R250	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R251	HV753100	R.CAR.FP	1Ω	1/4W
⚠	R253	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R254	HV753100	R.CAR.FP	1Ω	1/4W
⚠	R255	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R257	HV753100	R.CAR.FP	1Ω	1/4W
⚠	R258	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R261	HV753100	R.CAR.FP	1Ω	1/4W
⚠	R262	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R265	HV753100	R.CAR.FP	1Ω	1/4W
⚠	R267	HV754100	R.CAR.FP	10Ω	1/4W
⚠	R269	HV753100	R.CAR.FP	1Ω	1/4W
*	RY1	V6322600	RELAY	DC DH24D2-OT(M)-SL	
*	RY2	V6322600	RELAY	DC DH24D2-OT(M)-SL	
*	RY3	V6322600	RELAY	DC DH24D2-OT(M)-SL	
*	RY4	V6322600	RELAY	DC DH24D2-OT(M)-SL	
*	RY5	V6322600	RELAY	DC DH24D2-OT(M)-SL	
	SW1	VZ075500	SW.SLIDE	SL14-22AM5F	
*	TE1	V5909700	TERM.SP	4P LTS040-1009	
*	TE1	V5909700	TERM.SP	4P LTS040-1009(BG)	
*	TE1	V5909800	TERM.SP	4P LTS0410-1010(RT)	
*	TE2	V5909900	TERM.SP	8P LTS0810-2012(BG)	
*	TE2	V5910000	TERM.SP	8P LTS0810-2013(RT)	
*	TE3	V5909900	TERM.SP	8P LTS0810-2012(BG)	
*	TE3	V5910000	TERM.SP	8P LTS0810-2013(RT)	
		VK697600	SCR.BND.HD	3x10 SP ZMC2-Y	
*		V6605500	P.C.B.	FUNCTION(RT)	
*		V6605600	P.C.B.	FUNCTION(BG)	
	CB501	VQ963200	CN.BS.PIN	11P	
	CB502	VQ047900	CN	29P	
	CB503	VQ963200	CN.BS.PIN	11P	
	CB507	VB858200	CN.BS.PIN	3P	
	CB508	VQ047400	CN.BS.PIN	19P	
	CB509	VQ044500	CN.BS.PIN	11P	
	CB510	VM859600	CN.BS.PIN	15P	
	CB511	VM973500	CN.BS.PIN	17P	

* New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description		
CB512	VB858400	CN.BS.PIN	5P	
CB513	VB858200	CN.BS.PIN	3P	
CB515	VQ047300	CN.BS.PIN	12P	
CB516	VF982200	CN.BS.PIN	14P	
CB517	VB858200	CN.BS.PIN	3P	
C501	VD930900	C.CE.SMI	0.1uF	25V
C503	UP652470	C.POL	470pF	100V
C504	UP652470	C.POL	470pF	100V
C505	UP652470	C.POL	470pF	100V
C506	UP652470	C.POL	470pF	100V
C507	UP652470	C.POL	470pF	100V
C508	UP652470	C.POL	470pF	100V
C509	UP652470	C.POL	470pF	100V
C510	UP652470	C.POL	470pF	100V
C511	UP652470	C.POL	470pF	100V
C512	UP652470	C.POL	470pF	100V
C513	UU166100	C.EL	1uF	50V
C515	UP652220	C.POL	220pF	100V
C516	UU118220	C.EL	220uF	6.3V
C518	UP652220	C.POL	220pF	100V
C519	UU118220	C.EL	220uF	6.3V
C520	UU166100	C.EL	1uF	50V
C521	UP652470	C.POL	470pF	100V
C522	UP652470	C.POL	470pF	100V
C523	UU166470	C.EL	4.7uF	50V
C524	UP652470	C.POL	470pF	100V
C525	UP652470	C.POL	470pF	100V
C526	UU166470	C.EL	4.7uF	50V
C527	UU166470	C.EL	4.7uF	50V
C528	UP652470	C.POL	470pF	100V
C529	UP652470	C.POL	470pF	100V
C530	UU166220	C.EL	2.2uF	50V
C531	UP652470	C.POL	470pF	100V
C532	UP652470	C.POL	470pF	100V
C533	UU166220	C.EL	2.2uF	50V
C534	UU147100	C.EL	10uF	25V
C535	UA654390	C.MYLAR	0.039uF	50V
C536	UA654110	C.MYLAR	0.011uF	50V
C537	UA654390	C.MYLAR	0.039uF	50V
C538	UA654110	C.MYLAR	0.011uF	50V
C539	UU147100	C.EL	10uF	25V
C540	UU147100	C.EL	10uF	25V
C541	UU147100	C.EL	10uF	25V
C542	UU147100	C.EL	10uF	25V
C545	UU147100	C.EL	10uF	25V
C546	UU147100	C.EL	10uF	25V
C547	UA653100	C.MYLAR	1000pF	50V
C548	UU137470	C.EL	47uF	16V
C549	UU138100	C.EL	100uF	16V
C550	UU138100	C.EL	100uF	16V
C551	UA653100	C.MYLAR	1000pF	50V
C552	UU137470	C.EL	47uF	16V
C553	UU137470	C.EL	47uF	16V

∗ New Parts

Schm Ref.	PART NO.	Description		
C554	UU137470	C.EL	47uF	16V
C556	UU137470	C.EL	47uF	16V
C559	UU137470	C.EL	47uF	16V
C561	UU147100	C.EL	10uF	25V
C562	UU166470	C.EL	4.7uF	50V
C563	UU166470	C.EL	4.7uF	50V
C564	UP652100	C.POL	100pF	100V
C565	UU166470	C.EL	4.7uF	50V
C566	UP652100	C.POL	100pF	100V
C567	UU166470	C.EL	4.7uF	50V
C568	UU147100	C.EL	10uF	25V
C572	UU137220	C.EL	22uF	16V
C573	UP654270	C.POL	0.027uF	100V
C574	UP654270	C.POL	0.027uF	100V
C575	UU137220	C.EL	22uF	16V
C577	UU147100	C.EL	10uF	25V
C579	UU147100	C.EL	10uF	25V
C583	UP654270	C.POL	0.027uF	100V
C586	UP654270	C.POL	0.027uF	100V
C587	UU147100	C.EL	10uF	25V
C588	UU147100	C.EL	10uF	25V
C589	UU147100	C.EL	10uF	25V
C590	UU147100	C.EL	10uF	25V
C591	US135100	C.CE.CHP	0.1uF	16V
C593	UU147100	C.EL	10uF	25V
C594	UU147100	C.EL	10uF	25V
C595	UU137470	C.EL	47uF	16V
C596	UU137470	C.EL	47uF	16V
C597	UU147100	C.EL	10uF	25V
C598	UU147100	C.EL	10uF	25V
C599	UU147100	C.EL	10uF	25V
C600	UU147100	C.EL	10uF	25V
C601	US063100	C.CE.M.CHP	1000pF	50V
C602	US063100	C.CE.M.CHP	1000pF	50V
C603	US135100	C.CE.CHP	0.1uF	16V
C604	US135100	C.CE.CHP	0.1uF	16V
C605	US135100	C.CE.CHP	0.1uF	16V
C606	US135100	C.CE.CHP	0.1uF	16V
C607	UU119100	C.EL	1000uF	6.3V
C608	US135100	C.CE.CHP	0.1uF	16V
C609	UU137470	C.EL	47uF	16V
C610	US135100	C.CE.CHP	0.1uF	16V
C611	US135100	C.CE.CHP	0.1uF	16V
C612	US135100	C.CE.CHP	0.1uF	16V
C613	US135100	C.CE.CHP	0.1uF	16V
C614	US135100	C.CE.CHP	0.1uF	16V
C615	US135100	C.CE.CHP	0.1uF	16V
C616	US135100	C.CE.CHP	0.1uF	16V
C617	US135100	C.CE.CHP	0.1uF	16V
C618	US063100	C.CE.M.CHP	1000pF	50V
C619	US135100	C.CE.CHP	0.1uF	16V
C620	US135100	C.CE.CHP	0.1uF	16V
C621	US135100	C.CE.CHP	0.1uF	16V

∗ New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description		
C622	US135100	C.CE.CHP	0.1uF	16V
C623	UU147100	C.EL	10uF	25V
C624	UU147100	C.EL	10uF	25V
C625	US135100	C.CE.CHP	0.1uF	16V
C626	US135100	C.CE.CHP	0.1uF	16V
C627	US135100	C.CE.CHP	0.1uF	16V
C628	US135100	C.CE.CHP	0.1uF	16V
C629	UU147100	C.EL	10uF	25V
C630	US135100	C.CE.CHP	0.1uF	16V
C631	US135100	C.CE.CHP	0.1uF	16V
C632	US135100	C.CE.CHP	0.1uF	16V
C633	UU165470	C.EL	0.47uF	50V
C634	US135100	C.CE.CHP	0.1uF	16V
C635	UP652100	C.POL	100pF	100V
C636	UP652100	C.POL	100pF	100V
C637	UU147100	C.EL	10uF	25V
C638	UU147100	C.EL	10uF	25V
C639	UU147100	C.EL	10uF	25V
C640	UU147100	C.EL	10uF	25V
C641	UU147100	C.EL	10uF	25V
C642	UP652100	C.POL	100pF	100V
C643	UP652100	C.POL	100pF	100V
C644	US135100	C.CE.CHP	0.1uF	16V
C645	UU137470	C.EL	47uF	16V
C646	UU147100	C.EL	10uF	25V
C647	US135100	C.CE.CHP	0.1uF	16V
C648	UU137470	C.EL	47uF	16V
C649	UU137470	C.EL	47uF	16V
C650	UU137470	C.EL	47uF	16V
C651	UU137470	C.EL	47uF	16V
C652	UP652100	C.POL	100pF	100V
C653	UP652100	C.POL	100pF	100V
C654	UU147100	C.EL	10uF	25V
C655	UU118100	C.EL	100uF	6.3V
C656	UU147100	C.EL	10uF	25V
C657	UU147100	C.EL	10uF	25V
C658	UU118100	C.EL	100uF	6.3V
C659	US135100	C.CE.CHP	0.1uF	16V
C660	UU119100	C.EL	1000uF	6.3V
C661	UU119100	C.EL	1000uF	6.3V
C662	VT740700	C.EL	4700uF	5.5V
C663	US135100	C.CE.CHP	0.1uF	16V
C664	UU119100	C.EL	1000uF	6.3V
C665	UU137470	C.EL	47uF	16V
C666	UU137470	C.EL	47uF	16V
C667	UU137470	C.EL	47uF	16V
C668	UU137470	C.EL	47uF	16V
C669	UP652100	C.POL	100pF	100V
C671	US135100	C.CE.CHP	0.1uF	16V
C673	US135100	C.CE.CHP	0.1uF	16V
C674	US135100	C.CE.CHP	0.1uF	16V
C675	UU147100	C.EL	10uF	25V
C676	UU147100	C.EL	10uF	25V

* New Parts

Schm Ref.	PART NO.	Description		
C677	UU166220	C.EL	2.2uF	50V
C678	UU166220	C.EL	2.2uF	50V
C679	UU166220	C.EL	2.2uF	50V
C680	UU166220	C.EL	2.2uF	50V
C681	UU166220	C.EL	2.2uF	50V
C682	UU147100	C.EL	10uF	25V
C683	US063100	C.CE.M.CHP	1000pF	50V
C684	US063100	C.CE.M.CHP	1000pF	50V
C685	US135100	C.CE.CHP	0.1uF	16V
C686	US135100	C.CE.CHP	0.1uF	16V
C687	US135100	C.CE.CHP	0.1uF	16V
C688	US135100	C.CE.CHP	0.1uF	16V
C689	UU147100	C.EL	10uF	25V
C692	VD930900	C.CE.SMI	0.1uF	25V
C693	US135100	C.CE.CHP	0.1uF	16V
C694	US135100	C.CE.CHP	0.1uF	16V
C695	US135100	C.CE.CHP	0.1uF	16V
C696	US135100	C.CE.CHP	0.1uF	16V
C697	UU149100	C.EL	1000uF	25V
D502	VT332900	DIODE	1SS355	
D503	VG438100	DIODE.ZENR	MTZJ6.2C	6.2V(RT)
D503	VG438200	DIODE.ZENR	MTZJ6.8A	6.8V(BG)
D504	VV220700	DIODE.SHOT	RB501V-40	
D505	VV220700	DIODE.SHOT	RB501V-40	
D506	VV220700	DIODE.SHOT	RB501V-40	
D507	VV220700	DIODE.SHOT	RB501V-40	
D508	VT332900	DIODE	1SS355	
D509	iF004600	DIODE	1SS133	
D510	VT332900	DIODE	1SS355	
D511	VG437700	DIODE.ZENR	MTZJ5.6B	5.6V
D512	VG437700	DIODE.ZENR	MTZJ5.6B	5.6V
D513	VT332900	DIODE	1SS355	
D514	iF004600	DIODE	1SS133	
D515	iF004600	DIODE	1SS133	
D516	VG437300	DIODE.ZENR	MTZJ5.1A	5.1V
D517	VG437300	DIODE.ZENR	MTZJ5.1A	5.1V
D518	VT332900	DIODE	1SS355	
IC501	XJ553A00	IC	NJM2068MD	
IC502	XP895A00	IC	LC78212	
IC503	XP894A00	IC	LC78211	
IC504	XP895A00	IC	LC78212	
IC505	XP896A00	IC	LC78213	
IC506	XF291A00	IC	uPC4570G2	
IC507	XF291A00	IC	uPC4570G2	
IC508	XF291A00	IC	uPC4570G2	
IC511	XF291A00	IC	uPC4570G2	
IC512	XP894A00	IC	LC78211	
IC513	XF291A00	IC	uPC4570G2	
IC514	XF291A00	IC	uPC4570G2	
IC515	XF291A00	IC	uPC4570G2	
IC516	XW173A00	IC	CS3310-KS	
IC517	XW173A00	IC	CS3310-KS	
IC518	XW173A00	IC	CS3310-KS	

* New Parts

P.C.B. FUNCTION & VIDEO

Schm Ref.	PART NO.	Description	
IC519	XW173A00	IC	CS3310-KS
IC520	XW173A00	IC	CS3310-KS
IC521	XF291A00	IC	uPC4570G2
IC522	XP896A00	IC	LC78213
IC523	XF291A00	IC	uPC4570G2
IC524	XF291A00	IC	uPC4570G2
IC525	XF291A00	IC	uPC4570G2
IC526	XY892A00	IC.CPU	M30802SGP CPU
IC527	XZ450B00	IC	MBM29F400BC-70
IC528	XJ604A00	IC	NJM78M05FA
PJ501	V3855600	JACK.PIN	4P
PJ502	V3855600	JACK.PIN	4P
PJ503	V4198900	JACK.PIN	4P LPR6520-B71
PJ504	V4199200	JACK.PIN	6P
PN501	V3750200	PIN	L=70
PN502	V3750200	PIN	L=70
PN503	V3750200	PIN	L=70
Q505	VV556400	TR	2SC2412K Q,R,S
Q506	VV556500	TR	2SA1037K Q,R,S
Q507	VV655700	TR.DGT	DTC144EKA
Q508	VP872700	TR	2SC4488 S,T
Q509	VP872600	TR	2SA1708 S,T
Q510	VD303700	TR	2SC3326 A,B
Q511	VV556500	TR	2SA1037K Q,R,S
Q512	VD303700	TR	2SC3326 A,B
Q513	VV556500	TR	2SA1037K Q,R,S
Q514	VD303700	TR	2SC3326 A,B
Q515	VD303700	TR	2SC3326 A,B
Q516	VD303700	TR	2SC3326 A,B
Q517	VD303700	TR	2SC3326 A,B
Q518	VD303700	TR	2SC3326 A,B
Q519	VD303700	TR	2SC3326 A,B
Q520	VD303700	TR	2SC3326 A,B
Q521	VD303700	TR	2SC3326 A,B
Q522	VD303700	TR	2SC3326 A,B
Q523	VD303700	TR	2SC3326 A,B
Q524	VD303700	TR	2SC3326 A,B
Q525	VV556500	TR	2SA1037K Q,R,S
Q526	VV556500	TR	2SA1037K Q,R,S
Q527	VV556500	TR	2SA1037K Q,R,S
Q528	VV556500	TR	2SA1037K Q,R,S
Q529	VV556500	TR	2SA1037K Q,R,S
Q530	VV556500	TR	2SA1037K Q,R,S
Q531	VV556500	TR	2SA1037K Q,R,S
Q532	VV556500	TR	2SA1037K Q,R,S
Q533	VV556500	TR	2SA1037K Q,R,S
Q534	VV556500	TR	2SA1037K Q,R,S
Q535	VV556500	TR	2SA1037K Q,R,S
Q536	VV556500	TR	2SA1037K Q,R,S
Q537	VD303700	TR	2SC3326 A,B
Q538	VD303700	TR	2SC3326 A,B
Q539	VD303700	TR	2SC3326 A,B
Q540	VD303700	TR	2SC3326 A,B

∗ New Parts

Schm Ref.	PART NO.	Description	
Q541	VD303700	TR	2SC3326 A,B
Q542	VD303700	TR	2SC3326 A,B
Q543	VD303700	TR	2SC3326 A,B
Q544	VD303700	TR	2SC3326 A,B
Q545	VD303700	TR	2SC3326 A,B
R565	HV755100	R.CAR.FP	100Ω 1/4W
R568	HV755100	R.CAR.FP	100Ω 1/4W
R601	HV753220	R.CAR.FP	2.2Ω 1/4W
R635	HV753220	R.CAR.FP	2.2Ω 1/4W
R648	HV754100	R.CAR.FP	10Ω 1/4W
R719	HV753220	R.CAR.FP	2.2Ω 1/4W
R720	HV753220	R.CAR.FP	2.2Ω 1/4W
R822	HV753220	R.CAR.FP	2.2Ω 1/4W
ST501	BB071360	SCR.TERM	8.3x13
XL501	VT630600	RSNR.CE	16MHz CST
∗	V6606400	P.C.B.	VIDEO(RT)
∗	V6606500	P.C.B.	VIDEO(BG)
CB551	VQ961400	CN.BS.PIN	11P
CB552	VQ961400	CN.BS.PIN	11P
CB561	VQ963200	CN.BS.PIN	11P
CB562	VQ963200	CN.BS.PIN	11P
CB563	VQ961400	CN.BS.PIN	11P
CB564	VQ961400	CN.BS.PIN	11P
CB601	VM929900	CN.BS.PIN	15P
CB602	VN066500	CN.BS.PIN	12P
CB701	VM929900	CN.BS.PIN	15P
CB702	LB919030	CN.BS.PIN	3P
CB751	VB858300	CN.BS.PIN	4P
CB752	VM859600	CN.BS.PIN	15P
∗ CB951	V3768800	SOCKET	17LE-23090-28
CB952	VQ044500	CN.BS.PIN	11P
C551	UP652470	C.POL	470pF 100V
C552	UP652470	C.POL	470pF 100V
C553	UP652470	C.POL	470pF 100V
C554	UP652470	C.POL	470pF 100V
C555	UP652470	C.POL	470pF 100V
C556	UP652470	C.POL	470pF 100V
C557	UP652470	C.POL	470pF 100V
C558	UP652470	C.POL	470pF 100V
C559	UP652470	C.POL	470pF 100V
C560	UP652470	C.POL	470pF 100V
C561	UP652470	C.POL	470pF 100V
C562	UP652470	C.POL	470pF 100V
C563	UP652470	C.POL	470pF 100V
C564	UP652470	C.POL	470pF 100V
C565	UP652470	C.POL	470pF 100V
C566	UP652470	C.POL	470pF 100V
C567	UP652470	C.POL	470pF 100V
C568	UP652470	C.POL	470pF 100V
C601	US062100	C.CE.M.CHP	100pF 50V

∗ New Parts

P.C.B. VIDEO

Schm Ref.	PART NO.	Description		
C602	US062100	C.CE.M.CHP	100pF	50V
C603	US062100	C.CE.M.CHP	100pF	50V
C604	US062100	C.CE.M.CHP	100pF	50V
C605	US062100	C.CE.M.CHP	100pF	50V
C606	US062100	C.CE.M.CHP	100pF	50V
C607	US135100	C.CE.CHP	0.1uF	16V
C608	US135100	C.CE.CHP	0.1uF	16V
C609	US135100	C.CE.CHP	0.1uF	16V
C610	UR829100	C.EL	1000uF	10V
C611	UR837470	C.EL	47uF	16V
C612	UR837470	C.EL	47uF	16V
C613	UR837470	C.EL	47uF	16V
C614	US135100	C.CE.CHP	0.1uF	16V
C616	US135100	C.CE.CHP	0.1uF	16V
C617	UR827470	C.EL	47uF	10V
C618	UR837470	C.EL	47uF	16V
C619	US062820	C.CE.CHP	820pF	50V
C619	US062820	C.CE.CHP	820pF	50V(BG)
C619	US063150	C.CE.M.CHP	1500pF	50V(RT)
C620	US062270	C.CE.M.CHP	270pF	50V
C620	US062270	C.CE.M.CHP	270pF	50V(BG)
C620	US062390	C.CE.M.CHP	390P	50V(RT)
C621	UR827470	C.EL	47uF	10V
C622	UR827470	C.EL	47uF	10V
C623	UR827470	C.EL	47uF	10V
C624	UR827470	C.EL	47uF	10V
C625	UR847100	C.EL	10uF	25V
C626	US135100	C.CE.CHP	0.1uF	16V
C627	US135100	C.CE.CHP	0.1uF	16V
C628	US135100	C.CE.CHP	0.1uF	16V
C629	US135100	C.CE.CHP	0.1uF	16V
C630	US060800	C.CE.CHP	8pF	50V
C631	UR827470	C.EL	47uF	10V
C632	UR827470	C.EL	47uF	10V
C633	US061330	C.CE.M.CHP	33pF	50V
C634	US064100	C.CE.M.CHP	0.01uF	50V
C635	UR827470	C.EL	47uF	10V
C636	UR866470	C.EL	4.7uF	50V
C637	UR866470	C.EL	4.7uF	50V
C638	US135100	C.CE.CHP	0.1uF	16V
C639	US063120	C.CE.M.CHP	1200pF	50V
C640	US062470	C.CE.M.CHP	470pF	50V
C641	UR866100	C.EL	1uF	50V
C642	UR866100	C.EL	1uF	50V
C643	US060700	C.CE.CHP	7pF	50V
C644	US061240	C.CE.CHP	24pF	50V
C645	US061240	C.CE.CHP	24pF	50V
C646	US062220	C.CE.CHP	220pF	50V
C647	US062120	C.CE.CHP	120pF	50V
C648	UR827470	C.EL	47uF	10V
C649	US135100	C.CE.CHP	0.1uF	16V
C650	US135100	C.CE.CHP	0.1uF	16V
C651	UR847100	C.EL	10uF	25V

∗ New Parts

Schm Ref.	PART NO.	Description		
C652	US135100	C.CE.CHP	0.1uF	16V
C701	US062100	C.CE.M.CHP	100pF	50V
C702	US062100	C.CE.M.CHP	100pF	50V
C703	US062100	C.CE.M.CHP	100pF	50V
C705	UR847100	C.EL	10uF	25V
C706	UR829100	C.EL	1000uF	10V
C707	UR827470	C.EL	47uF	10V
C708	UR827470	C.EL	47uF	10V
C709	UR827470	C.EL	47uF	10V
C710	UR827470	C.EL	47uF	10V
C712	US135220	C.CE.CHP	0.22uF	16V
C713	UR827470	C.EL	47uF	10V
C714	UR827470	C.EL	47uF	10V
C715	US135100	C.CE.CHP	0.1uF	16V
C716	US135100	C.CE.CHP	0.1uF	16V
C717	UR828100	C.EL	100uF	10V
C718	UR837470	C.EL	47uF	16V
C719	US135100	C.CE.CHP	0.1uF	16V
C720	US135100	C.CE.CHP	0.1uF	16V
C721	US135100	C.CE.CHP	0.1uF	16V
C722	US135100	C.CE.CHP	0.1uF	16V
C751	VF466800	C.CE.TUBLR	100pF	50V
C752	VF466800	C.CE.TUBLR	100pF	50V
C753	VF466800	C.CE.TUBLR	100pF	50V
C757	UP652470	C.POL	470pF	100V
C758	UP652470	C.POL	470pF	100V
C759	UP652470	C.POL	470pF	100V
C760	UP652470	C.POL	470pF	100V
C761	VR169200	C.MYLAR.ML	ECQ-V1H474JL3	
C762	UP652470	C.POL	470pF	100V
C763	UP652470	C.POL	470pF	100V
C764	UP652100	C.POL	100pF	100V
C765	UP652100	C.POL	100pF	100V
C766	UP652100	C.POL	100pF	100V
C767	UP652100	C.POL	100pF	100V
C768	US064100	C.CE.M.CHP	0.01uF	50V
C769	US064100	C.CE.M.CHP	0.01uF	50V
C770	US064100	C.CE.M.CHP	0.01uF	50V
C771	US135100	C.CE.CHP	0.1uF	16V
C772	US135100	C.CE.CHP	0.1uF	16V
C773	UR847100	C.EL	10uF	25V
C774	UR847100	C.EL	10uF	25V
C951	UR828100	C.EL	100uF	10V
C952	US135100	C.CE.CHP	0.1uF	16V
C953	US135100	C.CE.CHP	0.1uF	16V
C954	US135100	C.CE.CHP	0.1uF	16V
C955	US135100	C.CE.CHP	0.1uF	16V
C956	US135100	C.CE.CHP	0.1uF	16V
C957	US135100	C.CE.CHP	0.1uF	16V
D601	iF004600	DIODE	1SS133	
D602	iF004600	DIODE	1SS133	
D603	iF004600	DIODE	1SS133	
D604	iF004600	DIODE	1SS133	

∗ New Parts

P.C.B. VIDEO & OPERATION

Schm Ref.	PART NO.	Description	
D605	iF004600	DIODE	1SS133
D606	iF004600	DIODE	1SS133
D607	iF004600	DIODE	1SS133
D608	iF004600	DIODE	1SS133
D609	iF004600	DIODE	1SS133
D610	iF004600	DIODE	1SS133
IC601	XW939A00	IC	TK15420M VIDEO AMP
IC602	XL493A00	IC	TC74HC4051AP
IC603	XL493A00	IC	TC74HC4051AP
IC604	XL493A00	IC	TC74HC4051AP
IC605	XL493A00	IC	TC74HC4051AP
IC607	iR405300	IC	TC74HC4053AP
IC608	iG142200	IC	TC74HCU04AP
IC609	XY443A00	IC	LA7109 6CH
IC610	XZ060A00	IC	LC74781-9798
IC611	XW416A00	IC	BU2092 SER/PAR
IC701	XW911A00	IC	LA7108M VIDEO AMP
IC702	XL493A00	IC	TC74HC4051AP
IC703	XL493A00	IC	TC74HC4051AP
IC751	XZ177A00	IC	LA7104M VIDEO AMP
IC752	iR405300	IC	TC74HC4053AP
* IC951	XZ617A00	IC	HIN202ECBN-T
JK601	VP113600	CN.DIN	2P
JK601	VP113600	CN.DIN	2P
JK602	VP113600	CN.DIN	2P
JK603	VP113600	CN.DIN	2P
JK604	VP113600	CN.DIN	2P
JK605	VQ960400	CN.DIN	1P
L602	V3233700	COIL	1.5uH
L603	V6236000	COIL	4.7uH LAV35VB4R7K
L605	V2726100	COIL	33uH
PJ551	V3855600	JACK.PIN	4P
PJ552	V3855600	JACK.PIN	4P
PJ553	V3855600	JACK.PIN	4P
* PJ554	V3856100	JACK.PIN	6P LPR6520-9720
PJ701	VN134600	JACK.PIN	1P
PJ702	VR110100	JACK.PIN	2P
PJ703	VR110100	JACK.PIN	2P
PJ704	VR110100	JACK.PIN	2P
PJ705	VR110100	JACK.PIN	2P
* PJ751	V6236200	JACK.PIN	3P YKC21-4144
* PJ752	V6236200	JACK.PIN	3P YKC21-4144
* PJ753	V6236200	JACK.PIN	3P YKC21-4144
* PJ754	VM725900	JACK.PIN	4P
* PJ755	VJ249500	JACK.PIN	4P
* PJ756	V6360700	JACK.PIN	RED/WH LPR6521-341
* PJ757	VZ668100	JACK.PIN	2P
PN601	V3750100	PIN	L=50
Q601	iC174020	TR	2SC1740S R,S
Q602	iC287820	TR	2SC2878 A,B
Q603	VD678700	TR.DGT	DTC114ES
Q604	iC174020	TR	2SC1740S R,S
Q605	iC174020	TR	2SC1740S R,S

* New Parts

Schm Ref.	PART NO.	Description	
Q606	iA1015I0	TR	2SA1015 Y
Q607	iC224030	TR	2SC2240 GR,BL
Q608	iC053540	TR	2SC535 A,B,C
Q609	iC287820	TR	2SC2878 A,B
Q701	iC174020	TR	2SC1740S R,S
R653	RD357330	R.MTL.CHP	33KΩ 1/10W
XL601	VV949800	RSNR.CRYS	14.31818MHz(RT)
XL601	VV949900	RSNR.CRYS	17.734475MHz(BG)
*	V6601400	P.C.B.	OPERATION
CB801	VQ044900	CN.BS.PIN	19P
CB802	VQ960800	CN.BS.PIN	5P
CB831	VQ962600	CN.BS.PIN	5P
CB901	VB858200	CN.BS.PIN	3P
CB902	VF982200	CN.BS.PIN	14P
CB935	V5478200	CN.PHOT.SN	1P GP1FA551RZ
CB936	VB858200	CN.BS.PIN	3P
C801	UU137470	C.EL	47uF 16V
C802	UU137470	C.EL	47uF 16V
* C803	UU147220	C.EL	22uF 25V
* C804	UU147220	C.EL	22uF 25V
C805	UU165100	C.EL	0.1uF 50V
C806	UU165100	C.EL	0.1uF 50V
C807	UU165100	C.EL	0.1uF 50V
C808	UU165100	C.EL	0.1uF 50V
C809	UU166100	C.EL	1uF 50V
C810	UU166100	C.EL	1uF 50V
C811	UU166220	C.EL	2.2uF 50V
C812	UU166220	C.EL	2.2uF 50V
C813	UP652100	C.POL	100pF 100V
C814	UP652100	C.POL	100pF 100V
C815	UU137470	C.EL	47uF 16V
C816	UU137470	C.EL	47uF 16V
* C817	VR168400	C.MYLAR.ML	ECQ-V1H124JL3
* C818	VR168400	C.MYLAR.ML	ECQ-V1H124JL3
C819	UA654330	C.MYLAR	0.033uF 50V
C820	UA654330	C.MYLAR	0.033uF 50V
C821	UU147100	C.EL	10uF 25V
C822	UU147100	C.EL	10uF 25V
C823	UU137470	C.EL	47uF 16V
C824	UU137470	C.EL	47uF 16V
C825	UU147100	C.EL	10uF 25V
C826	UU147100	C.EL	10uF 25V
C827	FG652100	C.CE	100pF 50V
C828	FG652100	C.CE	100pF 50V
C829	FG652100	C.CE	100pF 50V
C830	FG652100	C.CE	100pF 50V
C831	UU137470	C.EL	47uF 16V
C832	UU137470	C.EL	47uF 16V
C833	FG651220	C.CE	22pF 50V
C834	FG651220	C.CE	22pF 50V

* New Parts

P.C.B. OPERATION

	Schm Ref.	PART NO.	Description		
	C835	UU139100	C.EL	1000uF	16V
	C836	UU139100	C.EL	1000uF	16V
*	C837	VR168400	C.MYLAR.ML	ECQ-V1H124JL3	
*	C838	VR168400	C.MYLAR.ML	ECQ-V1H124JL3	
	C891	VF467000	C.CE.TUBLR	1000pF	50V
	C892	VF467000	C.CE.TUBLR	1000pF	50V
	C893	VF467000	C.CE.TUBLR	1000pF	50V
	C894	VJ599100	C.CE.TUBLR	0.1uF	50V
	C901	VJ599100	C.CE.TUBLR	0.1uF	50V
	C902	VJ599100	C.CE.TUBLR	0.1uF	50V
	C903	VJ599100	C.CE.TUBLR	0.1uF	50V
	C904	VJ599100	C.CE.TUBLR	0.1uF	50V
	C905	VJ599100	C.CE.TUBLR	0.1uF	50V
	C906	VJ599100	C.CE.TUBLR	0.1uF	50V
	C907	VJ599100	C.CE.TUBLR	0.1uF	50V
	C908	US135100	C.CE.CHP	0.1uF	16V
	C909	UU137100	C.EL	10uF	16V
	C910	US135100	C.CE.CHP	0.1uF	16V
	C911	VJ599100	C.CE.TUBLR	0.1uF	50V
	C912	VJ599100	C.CE.TUBLR	0.1uF	50V
	C913	VJ599100	C.CE.TUBLR	0.1uF	50V
	C914	VJ599100	C.CE.TUBLR	0.1uF	50V
	C915	US135100	C.CE.CHP	0.1uF	16V
	C916	VJ599100	C.CE.TUBLR	0.1uF	50V
	C917	VJ599100	C.CE.TUBLR	0.1uF	50V
	C918	VJ599100	C.CE.TUBLR	0.1uF	50V
	C919	UU167100	C.EL	10uF	50V
	C920	VJ599100	C.CE.TUBLR	0.1uF	50V
*	C921	UU118330	C.EL	330uF	6.3V
	C922	US135100	C.CE.CHP	0.1uF	16V
	C923	US062100	C.CE.M.CHP	100pF	50V
	C924	US135100	C.CE.CHP	0.1uF	16V
	C925	VJ599100	C.CE.TUBLR	0.1uF	50V
	C926	VJ599100	C.CE.TUBLR	0.1uF	50V
	C927	US060700	C.CE.CHP	7pF	50V
	C935	US135100	C.CE.CHP	0.1uF	16V
	C937	US135100	C.CE.CHP	0.1uF	16V
	C938	US062100	C.CE.M.CHP	100pF	50V
	C939	US062100	C.CE.M.CHP	100pF	50V
	C940	US135100	C.CE.CHP	0.1uF	16V
	C941	US135100	C.CE.CHP	0.1uF	16V
	D801	VG439100	DIODE.ZENR	MTZJ9.1A	9.1V
	D802	VG439100	DIODE.ZENR	MTZJ9.1A	9.1V
	D803	VU264100	DIODE	1SR139-400	
	D804	VU264100	DIODE	1SR139-400	
*	D901	VG438300	DIODE.ZENR	MTZJ6.8B	6.8V
	IC801	iG001270	IC	TC4066BP	
	IC802	XM356A00	IC	NJM2068LD	
	IC803	XB247A00	IC	uPC4570HA	
	IC804	XP844A00	IC	NJM4556AL	
*	IC901	XY115A00	IC	M66004MAFP-200C	
*	IC902	XY115A00	IC	M66004MAFP-200C	
*	JK831	V4164400	JACK.PHONE	YKB21-5209	
	JK935	V2589500	CN	1P	
	L935	V2726500	COIL	68uH	
	PJ935	VS868400	JACK.PIN	3P	
	Q801	VG721700	TR.DGT	DTA144ES	

* New Parts

	Schm Ref.	PART NO.	Description		
	Q802	VG722000	TR.DGT	DTC144ES	
	Q803	VK432900	TR	2SD1915F S,T	
	Q804	VK432900	TR	2SD1915F S,T	
	Q901	VV556400	TR	2SC2412K Q,R,S	
	Q902	VV556400	TR	2SC2412K Q,R,S	
	Q903	VV556400	TR	2SC2412K Q,R,S	
	Q904	VV556400	TR	2SC2412K Q,R,S	
	Q905	VV556400	TR	2SC2412K Q,R,S	
	Q906	VV556400	TR	2SC2412K Q,R,S	
	Q907	VV556400	TR	2SC2412K Q,R,S	
	Q908	VV556400	TR	2SC2412K Q,R,S	
	Q909	VV556400	TR	2SC2412K Q,R,S	
	Q910	VV556400	TR	2SC2412K Q,R,S	
	Q911	VV556400	TR	2SC2412K Q,R,S	
	Q935	VV556400	TR	2SC2412K Q,R,S	
	Q936	VV556500	TR	2SA1037K Q,R,S	
	R803	HV753330	R.CAR.FP	3.3Ω	1/4W
	R804	HV753330	R.CAR.FP	3.3Ω	1/4W
	R839	HV755100	R.CAR.FP	100Ω	1/4W
	R840	HV755100	R.CAR.FP	100Ω	1/4W
	R841	HV755220	R.CAR.FP	220Ω	1/4W
	R842	HV755220	R.CAR.FP	220Ω	1/4W
*	R846	VP439800	R.MTL.FLM	2.2KΩ	1/4W F
*	R847	VP439800	R.MTL.FLM	2.2KΩ	1/4W F
*	R848	VP439800	R.MTL.FLM	2.2KΩ	1/4W F
*	R849	VP439800	R.MTL.FLM	2.2KΩ	1/4W F
	R850	VP441600	R.MTL.FLM	12KΩ	1/4W
	R851	VP441600	R.MTL.FLM	12KΩ	1/4W
	R852	VP441600	R.MTL.FLM	12KΩ	1/4W
*	R853	VP442300	R.MTL.FLM	24KΩ	1/4W F
*	R854	VP442300	R.MTL.FLM	24KΩ	1/4W F
*	R855	VP442300	R.MTL.FLM	24KΩ	1/4W F
*	R856	VP442300	R.MTL.FLM	24KΩ	1/4W F
*	R857	VP442300	R.MTL.FLM	24KΩ	1/4W F
	ST891	BB071360	SCR.TERM	8.3x13	
*	ST901	VP750600	SCR.TERM	MEP1700	
	ST935	BB071360	SCR.TERM	8.3x13	
*	SW801	V6217400	SW.RT.ENC	REB161PHD20FHINA1	
*	SW802	V6154100	SW.RT.ENC	SDB161PH20FS-1-13	
*	SW901	V4757100	SW.TACT	EVQ11A	
*	SW902	V4757100	SW.TACT	EVQ11A	
*	SW903	V4757100	SW.TACT	EVQ11A	
*	SW972	V4757100	SW.TACT	EVQ11A	
*	SW977	V4757100	SW.TACT	EVQ11A	
*	SW985	V6886700	SW.RT.ENC		
*	SW990	V4757100	SW.TACT	EVQ11A	
*	SW991	V4757100	SW.TACT	EVQ11A	
*	SW992	V4757100	SW.TACT	EVQ11A	
*	SW993	V4757100	SW.TACT	EVQ11A	
*	SW994	V4757100	SW.TACT	EVQ11A	
	U901	VZ411100	L.DTCT	GP1U281X	
*	V901	V6291200	FL.DSPLY	32-BT-07G	
	VR801	VP741800	VR	B20KΩ	
	VR802	VP741900	VR	G25KΩ	
*		V6006800	SHEET		
*		VZ628400	SUPRT		

* New Parts

CHIP RESISTOR

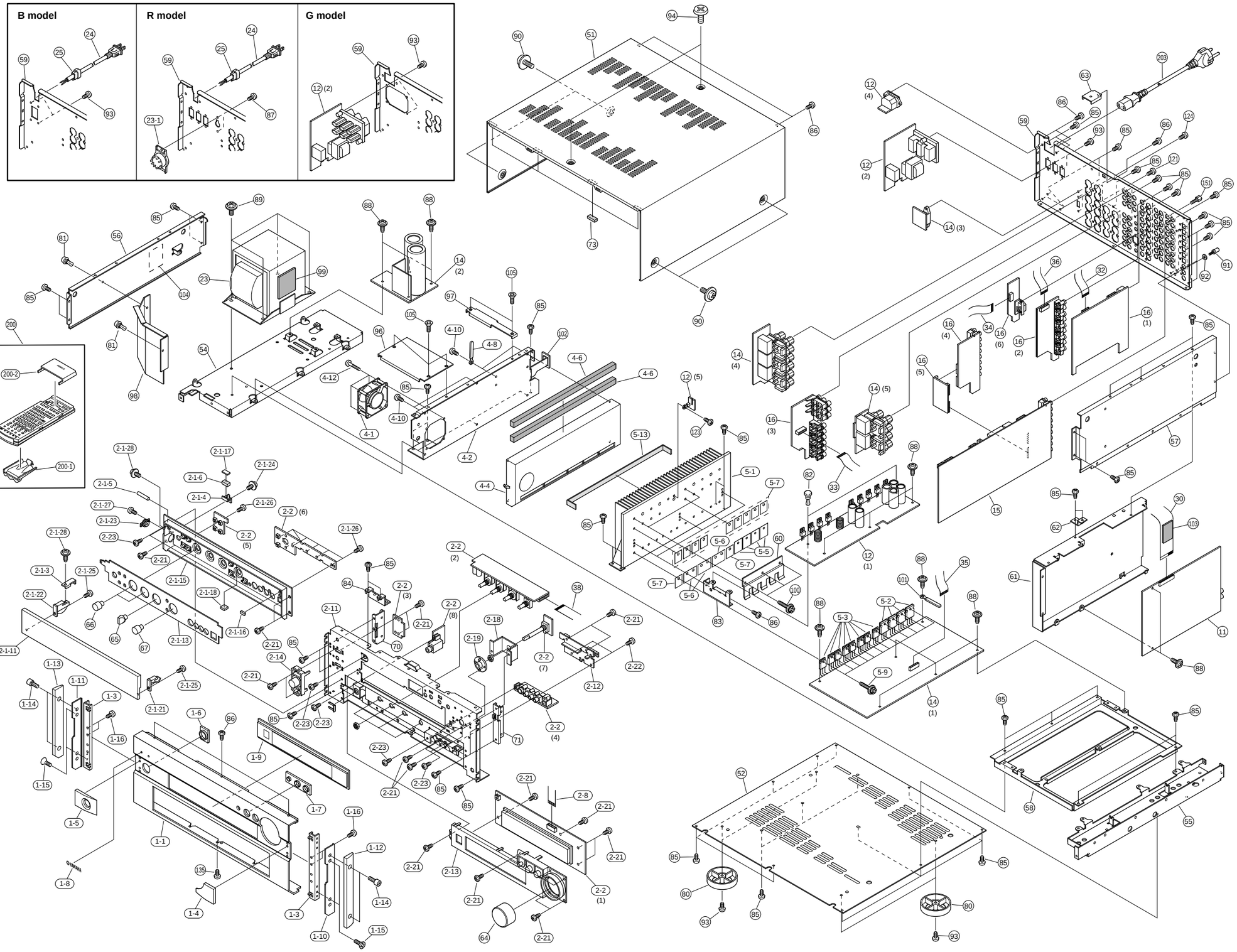
Schm Ref.	PART NO.	Description		
	RD350000	R.CAR.CHP	0Ω	1/10W
	RD353100	R.CAR.CHP	1Ω	1/10W
	RD353220	R.CAR.CHP	2.2Ω	1/10W
	RD354330	R.CAR.CHP	33Ω	1/10W
	RD354470	R.CAR.CHP	47Ω	1/16W
	RD354680	R.CAR.CHP	68Ω	1/16W
	RD354750	R.CAR.CHP	75Ω	1/10W
	RD355100	R.CAR.CHP	100Ω	1/10W
	RD355150	R.CAR.CHP	150Ω	1/10W
	RD355220	R.CAR.CHP	220Ω	1/10W
	RD355330	R.CAR.CHP	330Ω	1/10W
	RD355470	R.CAR.CHP	470Ω	1/10W
	RD355510	R.CAR.CHP	510Ω	1/16W
	RD355820	R.CAR.CHP	820Ω	1/10W
	RD356100	R.CAR.CHP	1KΩ	1/10W
	RD356120	R.CAR.CHP	1.2KΩ	1/10W
	RD356150	R.CAR.CHP	1.5KΩ	1/10W
	RD356180	R.CAR.CHP	1.8KΩ	1/10W
	RD356220	R.CAR.CHP	2.2KΩ	1/10W
	RD356270	R.CAR.CHP	2.7KΩ	1/10W
	RD356330	R.CAR.CHP	3.3KΩ	1/10W
	RD356430	R.CAR.CHP	4.3KΩ	1/10W
	RD356470	R.CAR.CHP	4.7KΩ	1/10W
	RD356560	R.CAR.CHP	5.6KΩ	1/10W
	RD356680	R.CAR.CHP	6.8KΩ	1/10W
	RD356820	R.CAR.CHP	8.2KΩ	1/10W
	RD357100	R.CAR.CHP	10KΩ	1/10W
	RD357150	R.CAR.CHP	15KΩ	1/10W
	RD357180	R.CAR.CHP	18KΩ	1/10W
	RD357220	R.CAR.CHP	22KΩ	1/10W
	RD357270	R.CAR.CHP	27KΩ	1/10W
	RD357470	R.CAR.CHP	47KΩ	1/10W
	RD357560	R.CAR.CHP	56KΩ	1/10W
	RD357820	R.CAR.CHP	82KΩ	1/10W
	RD358100	R.CAR.CHP	100KΩ	1/10W
	RD358120	R.CAR.CHP	120KΩ	1/10W
	RD358220	R.CAR.CHP	220KΩ	1/10W
	RD358330	R.CAR.CHP	330KΩ	1/16W
	RD358470	R.CAR.CHP	470KΩ	1/10W
	RD358680	R.CAR.CHP	680KΩ	1/10W
	RD359100	R.CAR.CHP	1MΩ	1/10W
	RD359220	R.CAR.CHP	2.2MΩ	1/10W

* New Parts

Schm Ref.	PART NO.	Description

* New Parts

■ EXPLODED VIEW



■ MECHANICAL PARTS

	Ref. No.	PART NO.	Description			Remarks	Markets
*	1-1	V6076700	FRONT PANEL			TI	
*	1-1	V6066000	FRONT PANEL			BL	
*	1-1	V6066100	FRONT PANEL			GD	
*	1-3	V6065300	SUPPORT/ESC				
*	1-4	V6066900	ESCUTCHEON/SIDE	R		BL	
*	1-4	V6077300	ESCUTCHOEN SIDE	R		TI	
*	1-4	V6067000	ESCUTCHEON/SIDE	R		GD	
*	1-5	V6077400	ESCUTCHOEN SIDE	L		TI	
*	1-5	V6067200	ESCUTCHEON/SIDE	L		GD	
*	1-5	V6067100	ESCUTCHEON/SIDE	L		BL	
*	1-6	V6070200	ESCUTCHEON/POWER				
*	1-7	V6070400	ESCUTCHEON, SEL				
*	1-8	V6004800	EMBLEM			BL,TI	
*	1-8	V6004900	EMBLEM			GD	
*	1-9	V6070000	WINDOW PANEL, LID				
*	1-10	V6070800	SPACER/SIDE	R			
*	1-11	V6070900	SPACER/SIDE	L			
*	1-12	V6066500	PANEL/SIDE	R		BL	
*	1-12	V6077100	PANEL/SIDE	R		TI	
*	1-12	V6066600	PANEL/SIDE	R		GD	
*	1-13	V6077200	PANEL/SIDE	L		TI	
*	1-13	V6066700	PANEL/SIDE	L		BL	
*	1-13	V6066800	PANEL/SIDE	L		GD	
*	1-14	V4656400	SPECIAL SCREW	4-7	MFNI3B	TI	
*	1-14	V4656300	SPECIAL SCREW	4-7	MFZN2-BL	BL	
*	1-14	V4656500	SPECIAL SCREW	4-7	MFNI33	GD	
*	1-15	V6893800	FLAT HEAD B-TITE SCREW	2.6x8	MFZN2-BL		
*	1-16	EG330360	BIND HEAD SCREW	3x6	ZMC2-BL		
	2-1-3	VZ619800	SUPPORT	HINGE			
*	2-1-4	VZ830500	SUPPORT	MG			
	2-1-5	VZ621800	SHAFT	AA			
*	2-1-6	VZ621900	MAGNET				
*	2-1-11	V6066400	PANEL, LID			GD	
*	2-1-11	V6076900	PANEL, LID			TI	
*	2-1-11	V6066300	PANEL, LID			BL	
*	2-1-13	V6067700	PLATE, SP			GD	
*	2-1-13	V6077600	PLATE, SP			TI	
*	2-1-13	V6067600	PLATE, SP			BL	
*	2-1-15	V6068500	SUB PANEL CASE			GD	
*	2-1-15	V6068400	SUB PANEL CASE			BL	
*	2-1-15	V6095500	SUB PANEL CASE			TI	
	2-1-16	VT062900	CUSHION, LID			BL	
	2-1-16	VU182300	CUSHION, LID			TI	
	2-1-16	V2048500	CUSHION, LID			GD	
*	2-1-17	V6996800	SPACER/MG				
	2-1-18	VH625500	DAMPER				
	2-1-21	V0050300	STOPPER	HINGE		GD	
	2-1-21	VJ888100	STOPPER	HINGE		BL,TI	
*	2-1-22	VZ830400	HINGE/MG			TI	
	2-1-22	V0047400	HINGE/MG			GD	
	2-1-22	VZ629400	HINGE/MG			BL	
	2-1-23	VZ830300	DAMPER, GEAR	15G			
	2-1-24	VQ541700	PW HEAD B-TITE SCREW	3x8-8	MFC2		

* New Parts

	Ref. No.	PART NO.	Description			Remarks	Markets
*	2-1-25	EG330360	BIND HEAD SCREW	3x6	ZMC2-BL		
*	2-1-26	EP600190	BIND HEAD B-TITE SCREW	3x8	ZMC2-BL		
	2-1-27	VG893800	BIND HEAD P-TITE SCREW	2x6	ZMC2-BL		
	2-1-28	VE529700	PW HEAD B-TITE SCREW	3x6-8	MFC2-BL		
*	2-2	V6601400	P.C.B. ASS'Y	OPERATION			
*	2-8	MF114250	FLEXIBLE FLAT CABLE C&C	14P 250mm			
*	2-11	V6065700	SUB CHASSIS				
*	2-12	V6065500	SUPPORT/PJ				
*	2-13	V6068900	BUTTON CASE ASSY	UPPER		BL	
*	2-13	V6069000	BUTTON CASE ASSY	UPPER		GD	
*	2-13	V6078100	BUTTON CASE ASSY	UPPER		TI	
*	2-14	V6069100	BUTTON/POWER			BL	
*	2-14	V6078900	BUTTON/POWER			TI	
*	2-14	V6069200	BUTTON/POWER			GD	
*	2-18	V6065600	SUPPORT/ENC				
*	2-19	V6071000	SUPPORT/SHAFT				
*	2-21	EP600190	BIND HEAD B-TITE SCREW	3x8	ZMC2-BL		
	2-22	EP600130	BIND HEAD B-TITE SCREW	3x6	ZMC2-Y		
	2-23	VN413300	BIND HEAD BONDING B-T. SCREW	3x8	MFZN2-BL		
	4-1	V3316600	DC BRUSHLESS FAN	2410ML-05W-B40-T14			
*	4-2	VV691100	FRAME	SF			
*	4-4	VV713600	BRACKET	F			
*	4-6	VZ012900	CUSHION, FAN				
*	4-8	CB502030	BINDING TIE	S-75B			
	4-10	EP630220	BIND HEAD P-TITE SCREW	3x8	ZMC2-BL		
	4-12	VV220300	BIND HEAD B-TITE SCREW	3x30	MFZN2-BL		
*	5-1	V6228000	HEAT SINK	40BS300-L130			
⚠	5-2	VY705000	TRANSISTOR	2SC5200 R,O		Q54,Q58,Q61,Q65	
⚠*	5-3	V6063900	TRANSISTOR	2SC5358 O,R		Q68,Q72,Q75,Q79 Q82,Q86,Q89,Q93	
	5-5	VK196000	SHEET	22x29			
*	5-6	V6492000	RADIATION SHEET	BFG-20ADH-6 24X36			
	5-7	VK195900	SHEET	19x24			
	5-9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3			
*	5-13	VU195800	DAMPER, FIN				
*	11	V6600100	P.C.B. ASS'Y	DSP			(RT)
*	11	V6600200	P.C.B. ASS'Y	DSP			(BG)
*	12	V6602700	P.C.B. ASS'Y	FAMP			(RT)
*	12	V6602800	P.C.B. ASS'Y	FAMP			(B)
*	12	V6602900	P.C.B. ASS'Y	FAMP			(G)
*	14	V6604100	P.C.B. ASS'Y	MAIN			(RT)
*	14	V6604700	P.C.B. ASS'Y	MAIN			(BG)
*	15	V6605500	P.C.B. ASS'Y	FUNCTION			(RT)
*	15	V6605600	P.C.B. ASS'Y	FUNCTION			(BG)
*	16	V6606400	P.C.B. ASS'Y	VIDEO			(RT)
*	16	V6606500	P.C.B. ASS'Y	VIDEO			(BG)
⚠*	23	XZ445A00	POWER TRANSFORMER				(BG)
⚠*	23	XZ443A00	POWER TRANSFORMER				(RT)
⚠	23-1	Vi449800	VOLTAGE SELECTOR	ESE-37284-F			(RT)
⚠	24	VU411300	POWER CORD ASS'Y				(B)
⚠	24	VZ542500	POWER CORD ASS'Y				(RT)
	25	V2438700	CORD STOPPER	10P1			(RBT)
*	30	MF129100	FLEXIBLE FLAT CABLE	29P 100mm P=1.25			

* New Parts

	Ref. No.	PART NO.	Description		Remarks	Markets
	32	MF112100	FLEXIBLE FLAT CABLE	12P 100mm P=1.25		
*	33	V6684100	S FLEXIBLE FLAT CABLE	15P 350mm P=1.25		
*	34	MF111400	FLEXIBLE FLAT CABLE	11P 400mm		
*	35	MF117140	FLEXIBLE FLAT CABLE	17P 140mm P=1.25		
*	36	MF115060	FLEXIBLE FLAT CABLE	15P 60mm P=1.25		
	38	MF119200	FLEXIBLE FLAT CABLE	19P 200mm		
*	51	V6404800	TOP COVER		GD	
	51	VZ617400	TOP COVER		BL	
	51	VZ617500	TOP COVER		TI	
	52	VJ893400	BOTTOM COVER			
*	54	V2614300	FRAME	L		
*	55	V6063400	FRAME	R/LOWER		
	56	V2614500	FRAME	SL		
*	57	VZ618100	FRAME	R/UP		
*	58	V6063300	FRAME, CENTER			
*	59	V6064400	REAR PANEL			(RT)
*	59	V6064500	REAR PANEL			(B)
*	59	V6064600	REAR PANEL			(G)
	60	VV826100	SUPPORT	TR		
*	61	V6064700	SHIELD CASE			
*	62	V6064900	SUPPORT	D/PCB		
*	63	V6669900	SSUPPORT, TOP			
*	64	V6068000	KNOB/D43		BL	
*	64	V6068100	KNOB/D43		GD	
*	64	V6077800	KNOB D43		TI	
*	65	V6001600	KNOB D15		BL	
*	65	V6001700	KNOB D15		GD	
*	65	V6001800	KNOB D15		TI	
*	66	V6069800	KNOB D15		BL	
*	66	V6069900	KNOB D15		GD	
*	66	V6078400	KNOB/D15		TI	
*	67	V6078600	KNOB/D15		BL	
*	67	V6078700	KNOB/D15		TI	
*	67	V6078800	KNOB/D15		GD	
*	70	VJ895500	FRAME	A		
*	71	VT999700	SUPPORT	R/FR		
	73	VE222600	CUSHION			
	80	V0042500	LEG	D60xH21	GD	
	80	VS025000	LEG	D60xH21	BL,TI	
*	81	CB068880	PLASTIC RIVET	No.1027		(RBGT)
*	82	CB605620	PLASTIC RIVET	No.1781		
*	83	VV692400	SUPPORT	H/PCB		
*	84	V6064800	SUPPORT	SF		
	85	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL		
*	86	EP600190	BIND HEAD B-TITE SCREW	3x8 ZMC2-BL		
*	87	EG330360	BIND HEAD SCREW	3x6 ZMC2-BL		(RT)
*	88	VQ541700	BW HEAD B-TITE SCREW	3x8-8 FCM3-CU		
	89	VK625000	CUP S-TITE SCREW	5x10-12 ZMC2-Y		
	90	21991500	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	BL	
	90	VD069600	PW HEAD S-TITE SCREW	4x8-10 MFNI-33	GD	
	90	VH313200	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL	TI	
	91	AA627310	GROUND TERMINAL			
*	92	03765560	PLAIN WASHER	3.6x10x0.8 FNM3-3G		

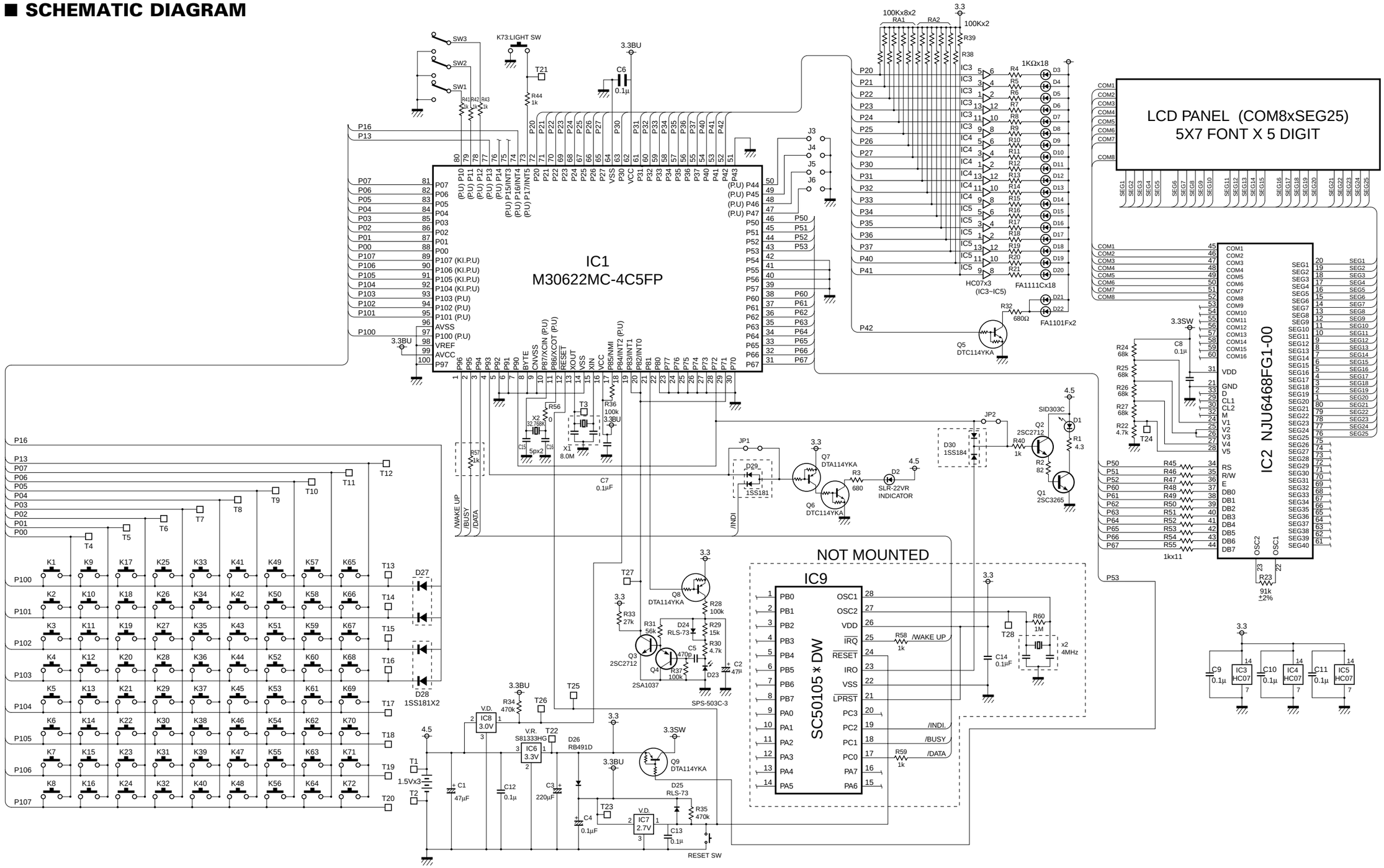
* New Parts

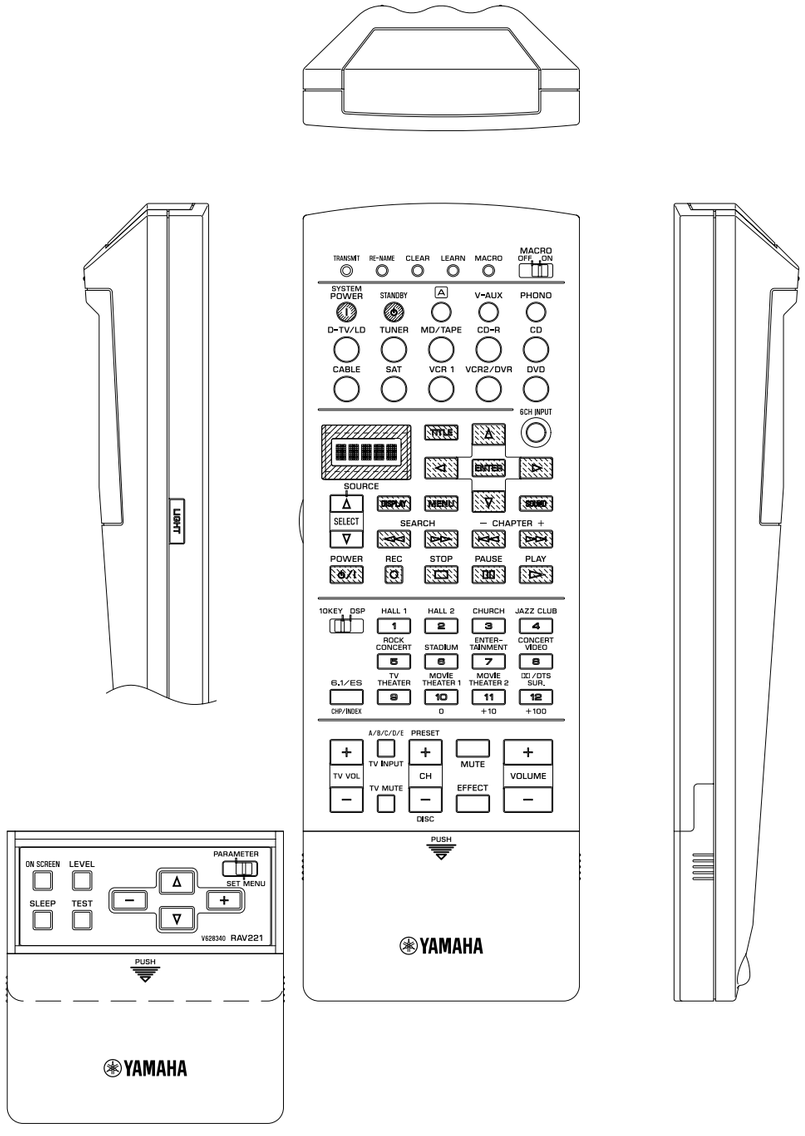
	Ref. No.	PART NO.	Description			Remarks	Markets
*	93	EP600220	BIND HEAD B-TITE SCREW	3x10	ZMC2-Y		
	94	VK522000	SPECIAL SCREW S-TITE	4x8-10	FCRM3-BL	BL	
	94	VK522100	SPECIAL SCREW S-TITE	4x8-10	FNM3-BL	TI	
	94	VZ893000	DECORATED SCREW S-TIGHT	4x8-10	MFNI-33	GD	
*	96	VY979800	SUPPORT, FAN COVER				
*	97	VY980000	SUPPORT/R				
*	98	VY980100	PLATE, FAN COVER				(RBGT)
	99	VQ199500	DAMPER	TRANSF.			(RBGT)
	100	VK173200	SCREW, TRANSISTOR	3x15 SP	FCM3		
*	101	CB502030	BINDING TIE	S-75B			
*	102	V6983800	SPACER/T05				
*	103	VQ758300	CUSHION, L				
*	104	V6276700	CUSHION/F				
*	105	VB072700	FLAT HEAD S-TITE SCREW	3x8	ZMC2-BL		
	121	VY731200	BONDING HEAD TAPPING SCREW	3x10	MFNI33		
	123	VK697600	BIND HEAD B-TITE SCREW	3x10 SP	ZMC2-Y		
	124	EP600530	BIND HEAD S-TITE SCREW	3x8	ZMC2-BL		(RBGT)
*	135	EL300690	PW HEAD P-TITE SCREW	3x8-8	MFZN2-BL		
*	151	V3768900	SCREW, LOCK	17L-003C41			
			ACCESSORIES				
*	200	V6283400	REMOTE CONTROL TRANSMITTER	RAV221			
	200-1	AAX20900	BATTERY COVER	103RRC-170-02R			
	200-2	AAX20890	SLIDE COVER	103RRC-171-02R			
⚠*	203	V6545900	POWER CORD ASS'Y	INLET 2.0m			(G)
*	204	V6181600	SHEET/SIDE R	1pc		BL	
*	204	V6181700	SHEET/SIDE R	1pc		TI	
*	204	V6181800	SHEET/SIDE R	1pc		GD	
*	205	V6181900	SHEET/SIDE L	1pc		BL	
*	205	V6182000	SHEET/SIDE L	1pc		TI	
*	205	V6182100	SHEET/SIDE L	1pc		GD	
			BATTERY(ALKALINE DRY)	1.5V LR6(3S)AG			

* New Parts

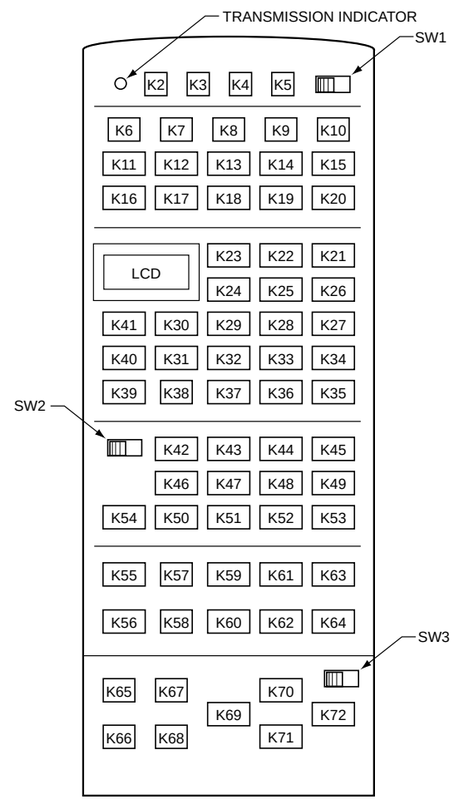
REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM





Key arrangement



Initial code of Yamaha/ヤマハ初期コード・・・1/2

Key No.	Key Name	YPC	DSP ＊1	Zone2 ＊2
1	-----	—	—	—
2	RE-NAME	—	—	—
3	CLEAR	—	—	—
4	LEARN	—	—	—
5	MACRO	—	—	—
6	POWER on	＊7A-1D	7D-90	＊7A-1D
7	STANDBY	7A-1E	7D-91	7A-1E
8	A	—	—	—
9	V-AUX	7A-55	7D-8A	7A-D8
10	PHONO	7A-14	7D-88	7A-D0
11	D-TV/LD	7A-54	7D-84	7A-D9
12	TUNER	7A-16	7D-89	7A-D2
13	MD/TAPE	7A-18	7D-8B	7A-D3
14	CD-R	7A-19	7D-8C	7A-D4
15	CD	7A-15	7D-87	7A-D1
16	CABLE	7A-C0	7D-96	7A-CC
17	SAT	7A-CA	7D-98	7A-CB
18	VCR1	7A-0F	7D-81	7A-D6
19	VCR2/DVR	7A-13	7D-82	7A-D7
20	DVD	7A-C1	7D-97	7A-CD
21	EXT. DEC.	7A-87	7D-8C	7A-87

＊1; Those code are transmitted when "DSP" is set-up as AMP library.
AMPライブラリをDSPに設定することで送信される。

＊2; Those code are transmitted when "Zone2" is chosen with Select key.
Selectキーによって Zone2を選択することで送信される。

＊; Transmitting Code of K6, "7A-1D"
K6送信コード、"7A-1D"について
Full word transmitted twice.
ワード部が2回送信される。

Device not mentioned on this table has no initial code.
本表に記載なきデバイスの初期コードはなし。

Key No.	Device	→	→	→	DVD (K20)	A (K8)	CD (K15)	MD/TAPE (K13)	TUNER (K12)	CD-R (K14)
22	Up	→	→	→	7C-B4	—	—	—	—	—
23	TITLE	→	→	→	7C-B1	—	—	—	—	—
24	Left	→	→	→	7C-B5	—	—	—	—	—
25	Enter	→	→	→	7C-B8	—	—	—	—	—
26	Right	→	→	→	7C-B6	—	—	—	—	—
27	SOUND	→	→	→	7C-AD	7C-12	—	—	—	—
28	Down	→	→	→	7C-B3	—	—	—	—	—
29	MENU	→	→	→	7C-B2	—	—	—	—	—
30	DISPLAY	→	→	→	7C-A6	7C-13	79-0A	79-A5	—	7F-9E
31	REW(SEARCH)	→	→	→	7C-86	7C-06	7A-0D	79-AC	—	7F-88
32	FF(SEARCH)	→	→	→	7C-87	7C-07	7A-0C	79-AD	—	7F-89
33	CHP/SKIP-	→	→	→	7C-B9	7C-02	7A-0B	79-AB	—	7F-86
34	CHP/SKIP+	→	→	→	7C-BA	7C-03	7A-0A	79-AE	—	7F-87
35	PLAY	→	→	→	7C-82	7C-05	7A-08	79-A8	—	7F-82
36	PAUSE	→	→	→	7C-83	7C-5A	7A-09	79-A9	—	7F-83
37	STOP	→	→	→	7C-85	7C-5B	7A-09	79-AA	—	7F-84
38	REC	→	→	→	7C-B7	—	—	79-AF	—	—
39	POWER	→	→	→	—	—	—	—	—	—
40	SELECT down	—	—	—	—	—	—	—	—	—
41	SELECT up	—	—	—	—	—	—	—	—	—

Initial code of Yamaha/ヤマハ初期コード・・・2/2

Key No.	Key Name	YPC	DSP ＊1	Zoon2 ＊2	DVD	A	CD	MD/TAPE	TUNER	CD-R
	SW2	DSP			10key					
42	PRG1	7A-88	7D-D0	7A-88	7C-94	7C-17	79-11	79-85	7A-E5	7F-91
43	PRG2	7A-89	7D-D1	7A-89	7C-95	7C-18	79-12	79-86	7A-E6	7F-92
44	PRG3	7A-8A	7D-D2	7A-8A	7C-96	7C-19	79-13	79-87	7A-E7	7F-93
45	PRG4	7A-8B	7D-D3	7A-8B	7C-97	7C-1A	79-14	79-88	7A-E8	7F-94
46	PRG5	7A-8C	7D-D4	7A-8C	7C-98	7C-1B	79-15	79-89	7A-E9	7F-95
47	PRG6	7A-8D	7D-D5	7A-8D	7C-99	7C-1C	79-16	79-8A	7A-EA	7F-96
48	PRG7	7A-8E	7D-D6	7A-8E	7C-9A	7C-1D	79-17	79-8B	7A-EB	7F-97
49	PRG8	7A-8F	7D-D7	7A-8F	7C-9B	7C-1E	79-18	79-8C	7A-EC	7F-98
50	PRG9	7A-90	7D-D8	7A-90	7C-9C	7C-1F	79-19	79-8D	7A-E1	7F-99
51	PRG10	7A-91	7D-D9	7A-91	7C-93	7C-16	79-10	79-8E	7A-E2	7F-90
52	PRG11	7A-92	7D-DA	7A-92	7C-9D	7C-5D	79-1A	79-8F	7A-E3	7F-9A
53	PRG12	7A-93	7D-DB	7A-93	7C-9F	7C-5E	79-0D	—	7A-E4	7F-8C
54	CHP/INDEX	7A-97	7D-DF	7A-97	7C-9E	7C-15	79-0B	—	7A-E0	7F-8A
55	TV VOL up	→	→	→	—	—	—	—	—	—
56	TV VOL down	→	→	→	—	—	—	—	—	—
57	TV INPUT	→	→	→	—	—	—	—	7A-12	—
58	TV MUTE	→	→	→	—	—	—	—	—	—
59	CH up	→	→	→	7C-8B	—	7A-4F	—	7A-10	—
60	CH down	→	→	→	7C-8A	—	7A-50	—	7A-11	—
61	MUTE	7A-1C	7D-94	7A-DC						
62	EFFECT	7A-56	7D-C1	7A-56						
63	VOL up	7A-1A	7D-8D	7A-DA						
64	VOL down	7A-1B	7D-8E	7A-DB						

	SW3	Parameter	Set Menu	Parameter	Set Menu	Parameter	Set Menu
65	ON SCREEN	7A-C2		7D-C2		7A-C2	
66	SLEEP	7A-57		7D-93		7A-57	
67	LEVEL	7A-86		7D-95		7A-86	
68	TEST	7A-85		7D-CA		7A-85	
69	LEFT	7A-C7	7A-9F	7D-C7	7D-9F	7A-C7	7A-9F
70	UP	7A-C5	7A-9D	7D-C5	7D-9D	7A-C5	7A-9D
71	DOWN	7A-C4	7A-9C	7D-C4	7D-9C	7A-C4	7A-9C
72	RIGHT	7A-C6	7A-9E	7D-C6	7D-9E	7A-C6	7A-9E

Key type table/キー種別表

No.	Key Name	Learn ＊1	Macro ＊2	Device ＊3	Illumi ＊4
1	-----	—	—	—	—
2	RE-NAME	—	—	—	—
3	CLEAR	—	—	—	—
4	LEARN	—	—	—	—
5	MACRO	—	—	—	—
6	POWER on	○	○	—	—
7	STANDBY	○	○	—	—
8	A	○	○	○	—
9	V-AUX	○	○	○	—
10	PHONO	○	○	○	—
11	D-TV/LD	○	○	○	—
12	TUNER	○	○	○	—
13	MD/TAPE	○	○	○	—
14	CD-R	○	○	○	—
15	CD	○	○	○	—
16	CABLE	○	○	○	—
17	SAT	○	○	○	—
18	VCR1	○	○	○	—
19	VCR2/DVR	○	○	○	—
20	DVD	○	○	○	—
21	EXT. DEC.	○	—	—	—
22	Up	○	—	—	D3
23	TITLE	○	—	—	D4
24	Left	○	—	—	D5
25	Enter	○	—	—	D6
26	Right	○	—	—	D7
27	SOUND	○	—	—	D8
28	Down	○	—	—	D9
29	MENU	○	—	—	D10
30	DISPLAY	○	—	—	D11
31	REW(SEARCH)	○	—	—	D12
32	FF(SEARCH)	○	—	—	D13
33	CHP/SKIP-	○	—	—	D14
34	CHP/SKIP+	○	—	—	D15
35	PLAY	○	—	—	D16
36	PAUSE	○	—	—	D17
37	STOP	○	—	—	D18
38	REC	○	—	—	D19
39	POWER	○	—	—	D20
40	SELECT down	—	—	○	—
41	SELECT up	—	—	○	—
42	PRG1	○	—	—	—
43	PRG2	○	—	—	—
44	PRG3	○	—	—	—
45	PRG4	○	—	—	—
46	PRG5	○	—	—	—
47	PRG6	○	—	—	—
48	PRG7	○	—	—	—
49	PRG8	○	—	—	—
50	PRG9	○	—	—	—
51	PRG10	○	—	—	—
52	PRG11	○	—	—	—
53	PRG12	○	—	—	—
54	CHP/INDEX	○	—	—	—
55	TV VOL up	○	—	—	—
56	TV VOL down	○	—	—	—
57	TV INPUT	○	—	—	—
58	TV MUTE	○	—	—	—
59	CH up	○	—	—	—
60	CH down	○	—	—	—
61	MUTE	○	—	—	—
62	EFFECT	○	—	—	—
63	VOL up	○	—	—	—
64	VOL down	○	—	—	—
65	ON SCREEN	○	—	—	—
66	SLEEP	○	—	—	—
67	LEVEL	○	—	—	—
68	TEST	○	—	—	—
69	LEFT	○	—	—	—
70	UP	○	—	—	—
71	DOWN	○	—	—	—
72	RIGHT	○	—	—	—

＊1; The key which has ○ is learning key.
○のキーが学習可能キー

＊2; The key which has ○ is Macro transmitting key.
○のキーがマクロ送信登録可能キー

＊3; The key which has ○ is for Device select.
○のキーはデバイス選択キー

＊4; The key which has D＊＊ is Illuminated key.
D＊＊表記のあるキーが照光キー
（D＊＊; LED Assign/LED アサインを示す）

Key Function of K22 - K60/K22～K60のキーファンクション

	Device	DVD	CD-R	SAT	VCR2/DVR	VCR1	CD	MD/TAPE	TUNER	CABLE	D-TV/LD	PHONO	V-AUX	A	OPTN
22	Up	Menu up	—	Menu up	—	—	—	—	—	Menu up	—	—	—	—	—
23	TITLE	Title	—	—	—	—	—	—	—	—	—	—	—	—	—
24	Left	Menu left	—	Menu left	—	—	—	—	—	Menu left	—	—	—	—	—
25	Enter	Menu enter	—	Menu select	—	—	—	—	—	Menu select	—	—	—	—	—
26	Right	Menu right	—	Menu right	—	—	—	—	—	Menu right	—	—	—	—	—
27	SOUND	Audio	—	—	—	—	—	—	—	—	—	—	—	Audio	—
28	Down	Menu down	—	Menu down	—	—	—	—	—	Menu down	—	—	—	—	—
29	MENU	MENU	—	MENU	—	—	—	—	—	MENU	—	—	—	—	—
30	DISPLAY	Display	Display	Display	—	—	Display	Display	—	Display	Display	—	—	Display	—
31	REW(SEARCH)	Rew	Rew	(VCR1 Rew)	Rew	Rew	Rew	Rew	—	(VCR1 Rew)	(VCR1 Rew)	—	—	Rew	—
32	FF(SEARCH)	FF	FF	(VCR1 FF)	FF	FF	FF	FF	—	(VCR1 FF)	(VCR1 FF)	—	—	FF	—
33	CHP/SKIP-	Skip-	Skip-	—	—	—	Skip-	Skip-	—	—	—	—	—	Chap/Skip-	—
34	CHP/SKIP+	Skip+	Skip+	—	—	—	Skip+	Skip+	—	—	—	—	—	Chap/Skip+	—
35	PLAY	Play	Play	(VCR1 Play)	Play	Play	Play	Play	—	(VCR1 Play)	(VCR1 Play)	—	—	Play	—
36	PAUSE	Pause	Pause	(VCR1 Pause)	Pause	Pause	Pause	Pause	—	(VCR1 Pause)	(VCR1 Pause)	—	—	Pause	—
37	STOP	Stop	Stop	(VCR1 Stop)	Stop	Stop	Stop	Stop	—	(VCR1 Stop)	(VCR1 Stop)	—	—	Stop	—
38	REC	Return	REC	(VCR1 REC)	REC	REC	—	REC	—	(VCR1 REC)	(VCR1 REC)	—	—	—	—
39	POWER	Power	Power	Power	Power	Power	Power	Power	Power	Power	Power	—	—	Power	—
40	SELECT down	Device select down							Device select down						
41	SELECT up	Device select up							Device select up						
42	PRG1	1	1	1	1	1	1	1	P1	1	1	—	—	1	—
43	PRG2	2	2	2	2	2	2	2	P2	2	2	—	—	2	—
44	PRG3	3	3	3	3	3	3	3	P3	3	3	—	—	3	—
45	PRG4	4	4	4	4	4	4	4	P4	4	4	—	—	4	—
46	PRG5	5	5	5	5	5	5	5	P5	5	5	—	—	5	—
47	PRG6	6	6	6	6	6	6	6	P6	6	6	—	—	6	—
48	PRG7	7	7	7	7	7	7	7	P7	7	7	—	—	7	—
49	PRG8	8	8	8	8	8	8	8	P8	8	8	—	—	8	—
50	PRG9	9	9	9	9	9	9	9	B	9	9	—	—	9	—
51	PRG10	0	0	0	0/10	0/10	0	0	C	0	0/10	—	—	0	—
52	PRG11	+10	+10	Recall	—	—	+10	+10	D	Recall	—	—	—	+10	—
53	PRG12	Clear	Clear	—	—	—	Clear	—	E	—	—	—	—	Clear	—
54	CHP/INDEX	Title/index	Index	Enter	TV/VIDEO	TV/VIDEO	Index	—	A	enter	enter	—	—	CHP/Time	—
55	TV VOL up	(TVVOL up)	(TVVOL up)	(TVVOL up)	(TVVOL up)	(TVVOL up)	(TVVOL up)	(TVVOL up)	—	(TVVOL up)	TVVOL up	(TVVOL up)	(TVVOL up)	(TVVOL up)	(TVVOL up)
56	TV VOL down	(TVVOL down)	(TVVOL down)	(TVVOL down)	(TVVOL down)	(TVVOL down)	(TVVOL down)	(TVVOL down)	—	(TVVOL down)	TVVOL down	(TVVOL down)	(TVVOL down)	(TVVOL down)	(TVVOL down)
57	TV INPUT	(TV Input)	(TV Input)	(TV Input)	(TV Input)	(TV Input)	(TV Input)	(TV Input)	A/B/C/D/E, FM/AM	(TV Input)	TV Input	(TV Input)	(TV Input)	(TV Input)	(TV Input)
58	TV MUTE	(TV Mute)	(TV Mute)	(TV Mute)	(TV Mute)	(TV Mute)	(TV Mute)	(TV Mute)	—	(TV Mute)	TV Mute	(TV Mute)	(TV Mute)	(TV Mute)	(TV Mute)
59	CH up	DISC+	—	CH up	CH up	CH up	DISC+	—	PRESET+	CH up	CH up	—	—	DISC+	—
60	CH down	DISC-	—	CH down	CH down	CH down	DISC-	—	PRESET-	CH down	CH down	—	—	DISC-	—

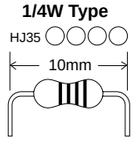
Initial Macro setup/初期登録マクロ

Key	Key Name	1	2	3	4～10
6	POWER on	K6	K39 TV	—	—
7	STANDBY	K7	—	—	—
8	A	K6	—	—	—
9	V-AUX	K6	K9	—	—
10	PHONO	K6	K10	—	—
11	D-TV	K6	K11	—	—
12	TUNER	K6	K12	—	—
13	MD/TAPE	K6	K13	K35 MD/TAPE	—
14	CD-R	K6	K14	K35 CD-R	—
15	CD	K6	K15	K35 CD	—
16	CABLE	K6	K16		—
17	SAT	K6	K17		—
18	VCR1	K6	K18	K35 VCR1	—
19	VCR2/DVR	K6	K19	K35 VCR2	—
20	DVD	K6	K20	K35 DVD	—

Parts List for Carbon Resistors

Value	**1/4W** Type Part No.	**1/6W** Type Part No.	Value	**1/4W** Type Part No.	**1/6W** Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	10 kΩ	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	❊	11 kΩ	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 kΩ	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 kΩ	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 kΩ	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 kΩ	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 kΩ	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 kΩ	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 kΩ	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 kΩ	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 kΩ	HF45 7330	HF45 7330
39 Ω	HJ35 4470	HF85 4390	36 kΩ	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 kΩ	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 kΩ	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 kΩ	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 kΩ	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 kΩ	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 kΩ	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 kΩ	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 kΩ	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 kΩ	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 kΩ	HF45 8110	HF45 8110
160 Ω	HJ35 5160	❊	120 kΩ	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	❊
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	❊
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			

1/4W Type
HJ35



1/4W Type
HF45
1/6W Type
HF85

1992

DSP-AX2

YAMAHA